

THE
Wild Life Preservation Society of Northern India

The CHEETAL



APRIL, 1959

VOL. 1

No. 2

Price Rs. 2/-

Wild Life Preservation Society of Northern India.

- I. The Society covers activities in the seven States constituting the Northern Region, i.e. Uttar Pradesh, Madhya Pradesh, Rajasthan, Himachal Pradesh, Punjab, Jammu and Kashmir and Delhi.
- II. The aims and objects of the Society are as follows
- To promote interest in the preservation and conservation of all forms of animal life among the youth of the country.
 - To assist in enforcing the game and arms rules and to bring to the notice of the authorities any infringement of the same.
 - To advise and help Government and the District authorities in the formation and maintenance and protection of sanctuaries and National Parks.
 - To raise funds for the carrying out of the above aims and objects.
 - To carry on any other activities which will serve the above objectives, including Publicity and Propaganda and the issue of a Journal.
 - To assist members of the Society in obtaining shooting and fishing facilities and facilities for viewing and photographing wild life etc.

III Classes of Members

- Patrons, paying a donation of Rs. 500/.
- Life Members 150/-
- Institutional Members 60 -
- Affiliated 60/-
- Ordinary 32/- (Entrance fee Rs. 20/- annual subscription Rs. 12/-)
- Educational 16/- (half fee)
- Honorary Persons who have rendered eminent services to wild life.

IV. The Society has, upto-date :—

Patrons	...	16
Life Members	...	8
Institutional Members	...	5
Affiliated Members	...	2
Ordinary Members	...	73
Educational Members	...	4

The Society's funds stands, so far, at Rs. 13,000/- nearly.

V. Office Bearers and Members of the provisional Executive Committee formed on 13-4-58 and enlarged subsequently.

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Vice-Presidents:—	Shri P. D. Stracey, I.F.S. and Shri R. L. Holdsworth.	
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Ex-Officio Members

The Chief Game Warden, Uttar Pradesh.
 The Conservator of Wild Life, Punjab.
 The Deputy Game Warden, Himachal Pradesh.
 The Divisional Forest Officer, Dehra Dun.
 The Divisional Forest Officer, Saharanpur.

Sub-Committees

There are two Sub-committees.—One on Wild Life Legislation and the other on Publicity.

For Complete List of Members see Pages 63 to 66.

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Ourselves

The first issue of the "Cheetal", which came out in October 1958, was well received. We apologise for some minor mistakes and corrections, the result of hurried preparation of the journal and we hope that subsequent issues will be better, both in manner of presentation and matter.

The "Cheetal" is the organ of the Wild Life Preservation Society of Northern India. Its aim is to serve as a watch dog for wild life and to keep the members, and through them the public, informed of the progress and of the work of the Society in the preservation of wild life in Northern India. The first issue was mainly the work of a few contributors and the shape of the magazine and of its regular features was not at the time completely discernible. Since then the Publicity Sub-Committee of the Wild Life Preservation Society which publishes the journal, has had time to consider the matter more fully. The present issue contains certain additional items which, it is hoped, will be constant features of the magazine.

But to completely fulfil its purpose, the journal must receive more support from the generality of the society's members, who should contribute actively to maintain its standard and interest for them and for others of a wider circle. We have received very few comments or contributions from members outside that Publicity Committee. We would welcome, therefore, letters and reports both from members, as well as non-members, in respect of any aspect of the task which the Society has set itself to carry out.

There have been previous attempts at wild life preservation societies and also the publication of journals. In the 1930's there was the Northern India Association for the Protection of Wild Life which appears to have been largely confined to the Punjab. This was an organisation which was Government sponsored and there was no subscription. The Secretary was Mr. Donald, who for many years, was actively concerned with wild life preservation in the Punjab, along with Mr. David of the Indian Forest Service, the first Game Warden of that Province. In addition to this association, there were in the Punjab District Fauna Committees, appointed by the Government, which were constituted as advisers to the District authorities on matters of wild life. These Fauna Committees are the surviving feature of this old organisation and in addition, since the last three 4 years, Shikar, or as they are now called Wild Life, Clubs have been formed, also by Government directive and encouragement, in the various districts of the Punjab.

In the old United Provinces, a society was formed in the 1930's called the Society for the Preservation of Wild Life in the U.P. For a few years it produced a journal called "Indian Wild Life", which was edited by Jim Corbett and Hasin Abid Jaffry from Lucknow. The war put an end to the society and the journal. Incidentally, we should be very grateful to receive more information of these organisations and to receive copies of the journals from any of our members who may still possess them.

It will be seen, therefore, that we are not the pioneers in the field of wild life preservation in Northern India. But the present effort is to be viewed in the context of the present day circumstances, which are, put in a nutshell, our rapidly vanishing wild life. The years before the war can in no way be compared with the post-war and particularly the post-independence period, for reasons which need not be expanded here. The task is all the more difficult and is, in more senses than one, a task of the times. The protection which wild life in all its aspects received from the ruling princes and from the British administration of the pre-independence era is no longer there. The difficulty of securing support for such a movement as ours in India to-day is formidable, although now that we are independent, it is more than ever the duty of the public to support such movements.

The response so far has been reasonably satisfactory. Many of the ex-ruling Princes have become Patrons of the Society, mainly through the activity of our President, H. H. the Maharaja of Nabha, who displays a keen interest in the progress of the Society and in its activities. A number of sportsmen, though admittedly mostly elderly sportsmen, have joined. The greatest disappointment has been so far, the lack of response from the senior forest officers of the States. Yet it is hoped that this class of officers, will, as the Society progresses and the work of it gets around through the medium of its journal, come forward in numbers to join and support the Society. Other categories of Government servants are practically not represented among the Society's members except a few army officers. We have created a special Educational Membership for teachers, the subscription of which is half that of Ordinary Members, in the hope of attracting the persons who have to teach the youth of the country of the need to protect wild life. We have also introduced a Life membership, which should appeal to a large number of people. Our membership today stands at 104 and our funds at Rs. 12,000/-. But we must avoid complacency and, while not underestimating the task ahead of us, we must literally 'gird up our loins' and go forward. The cause of preserving wild life is of a sufficiently idealistic nature to attract many people and we are certain that they will come with us.

We are glad to announce that through the kindness of Dr. S. K. Shome, the society has been able to secure a part of his clinic for its office.

The Old Dholpur Sanctuary

After taking early tea, we would leave either the City Palace or the Kesar Bagh Palace for a drive in the afternoon. This was a daily routine for me while I was staying with His Late Highness Maharaj-Rana of Dholpur, my father-in-law of revered memory.

The journey from the City Palace to Kesar Bagh Palace, where the real jungle starts, is about six or seven miles. While going you have to pass a very sacred place called Machkund. This has temples and a Gurudwara. Here Guru Har Gobind, our 6th Guru, stayed for a while on his way back from Gwalior. The Gurudwara is to commemorate the occasion. There is a tank, which is considered very sacred, and many people have a dip in it as they would have in any other sacred river or tank.

After a few moments, we again join the main Kesar Bagh-Dholpur Road, and before we join the above road, you can see the Kesar Bagh Palace standing on a hill. It is a picturesque red building on the top of an evergreen hillock 1100 feet above sea level, surrounded by a lovely landscape beneath it. This building was only a shooting lodge, but my father-in-law's father built it and used to stay there. When His Late Highness started preserving Wild Life, he also started staying there.

Beneath Kesar Bagh Palace, there was no water for the animals to drink. So water tanks were made which were always kept full and cleaned now and then to keep the water crystal clear.

As our car approached the water tanks, the sambar would know that we had arrived with their tea. We would take gram-roties, cucumber, melons, green vegetable leaves for the sambars, spotted deer and carrots for the wild pig; sweet pakoras, sweet mal-puas fried in oil, cold milk and nukdiladdoos for jackals and foxes, bajra grain for partridges, gram for the pea fowl and soft gram-roties for the treebies (mahuka). You will not believe me when I say that, when we got out of our car, the animals would not run away but would come and stop at a few paces from us. This was in cases of a stranger like me. They used to come up to His Late Highness every day and were accustomed to his voice.

At this place I became quite conversant with the names by which His Late Highness called the sambar. When sometimes, a number of sambars came, it became very difficult to feed them. At times, we did not get out of the car, but used to feed them while sitting inside and at times we used to get out of the car to feed them. Their names were Kukoo stag, Shyama hind, Sunahri hind, Chameli hind, Chameli's sister hind, Soory stag and Garivdas stag at Kesar Bagh. After feeding the sambars and the pea-fowls and their chicks at this

place, we would go on and sometimes we would see an odd panther or tiger. But the latter would not be fed at the place where we saw them.

Then the others to be fed would be the partridges. There would be so many on the roads with their young chicks that if you believe me they literally would bring the car to a halt. The chicks would not eat at once, but their parents would start eating as soon as the bajra was put down for them. The chicks too would start eating as soon as the car pulled away from that spot. This we would observe from the rear window of the car.

Now the turn of the jackals and foxes would come. They would be fed at the end with sweet pakoras, sweet mal-puas fried in oil, cold milk and laddoos. When the laddoos were given, they would catch them as a person would catch a cricket-ball and this would be an indication that their tea had come to an end for that day. His Late Highness would call them by their respective names such as Rau and Rani, Bachni, Bachoo, Uloonath, Thakur, Film-Star, Thakurani. The fox was called Baiji. She had three children and there were other foxes too. They would be fed with the same food stuffs as the jackals. They, too, would all obey his word of command. Sometimes if we were there earlier than usual, a gentle hand on the car horn would be enough to give them the signal that we were waiting for them.

The pigs would now be next to be fed, and they would eat gram-roties and carrots from His Highness's hands. The young ones too would have their share of the feeding. Before reaching Ban Behar, we would come across, hundreds of pea-fowls and their chicks, lady of the bonnet, pea-hen and Dost and Bundoo, pea-cocks, which would also be fed with chanas (gram) and roties and bajra grain. Between the pea-hens and Ban Behar would come a herd of spotted deer. They would number between 25 to 30 at this particular place, stags, hinds and their young ones. They would eat soft puries, cucumber, melons.

This would bring us to the shooting lodge called Ban Behar, with a small lake about 150 by 200 yards. This lodge was most luxuriously furnished. It has four bed rooms, and four dressing rooms—two on the first floor and two on the ground floor; four verandahs, two on each floor at the front and the back, four dressing rooms, dining room, a drawing room, and on the top a beautiful barsati with two small rooms. Also there were staff rooms, kitchen, garage, and a room where a small generator was installed to give electric light to this shooting lodge. One could sit there and see all the animals coming to have their drink in the hot weather, for all the water at nearby places dries up and this was the only water for them to drink in this area.

One day, as we approached the shooting lodge, we were told by the keeper that two tigers were drinking water on the other side of the lake. So we took the cars slowly into



His late Highness Maharaj Rana of Dholpur feeding a Peacock



His late Highness Maharaj Rana of Dholpur feeding a Sambhur Stag.

the courtyard, and in a silence in which you could hear a pin drop, went up the stair-case. His Late Highness was ahead of us. He said 'come on', and we followed. Here we sat on a cane chair for over half an hour. We could have sat for longer, but then it would have got too late for our other jungle friends which were awaiting us to have their share of the feeding.

But before we go and feed the other animals, I would like you to know something about the two tigers across the lake. We saw them sitting on the soft green grass on the other side. One would go and have a drink and then the other, and they were in a very playful mood. Suddenly we could see a sambar stag coming to have his evening drink, for this is the only place left for drinking water during summer months. The sambar had no idea of the presence of the tigers, nor did the tigers know that there would be a "sambar-steak" for dinner. Just as the sambar began to have a drink, the tiger began to stalk his prey. As soon as the sambar saw the tiger, he made off into the water. The tiger ran after him but in vain, as a tiger can do no harm in water, because neither of his two front paws can be of any use and he cannot spring on his hind legs to give that impact with which he kills his prey. Switching his tail above the water he made a noise, as if to say, "Well, never mind, it will not happen again, my friend." He then, went away growling, with the tigress and soon we saw them disappearing into the jungle. The sambar stayed in the water for a little while to see if it was all clear and there was no danger of the King of the Jungle returning again. Then the rest of the herd came and joined him for their evening drink. While they were having their drink one of the herd was keeping a watch to see that the tiger did not re-appear to have his own back this time. Nothing happened and we left them drinking and went to feed our other friends.

We now come across some more pea-fowls and the same herd of spotted-deer would reappear and you will be pleased to know that they were very much protected then. I cannot say what fate awaits them now. Further on we come across some more sambar. At this place one could see a magnificent looking stag, whose name was Sepoy, for he used to stand in the middle of the road to stop the car—hence the name. As soon as the car stopped, he would come straight to it and try to put his head into it with his big antlers. One day he actually did it and it was with great difficulty that he got his antlers and head out of the car. But all went well and he was not hurt. Now the car appeared to be more comfortable to sit in, for before this it was full of the things that we took to feed our jungle friends. Their names, as I remember, were stags: Sepoy, Vakil Sahib, Chandra Sen, Burrahoo and Mangal Singh and hinds: Bhukkar senior and junior, Bari Madeen, Chuhia and many others.

We now move on and from hundred yards away, we can see the mahukas (treepies), Nakhro and Jhapatto, flying from tree to tree, for it was their turn to have their share of the

feed. His Late Highness used to have a piece of soft gram-roti in his hand and put it out of the car and the mahukas flying up would sit on his hand by turns and eat it. If it had had too much then it would fly away, store it in some tree and come back for some more food. It was never very greedy, for when she thought she had had enough, she would go back to the tree, singing her tune of thanks and fly away after a few minutes.

There are two large lakes, Ram Sagar named after Maharaj Rana Ram Singhji, the brother of His Late Highness of Dholpur, and 'Urmila Sagar', named after my wife. On the first lake, one could motor the whole of the day and find tigers, crocodiles, sambar, birds, snake birds, fish eagle, herons of various kinds, storks of two or three kinds, geese and ducks (seasonal visitors), king fishers of three different kinds, cormorants, ibis (white and black) and mahaseer fish. On the other lake you can find the birds mentioned above and other animals too and plenty of fish. The latter have now dwindled away. Crocodiles were so many on both the lakes and they would not feel shy at all when we approached them in our motor boat. They would remain sleeping with their mouths open and you could have counted their teeth if you wished to. The crocodiles have had the same fate as the fish.

The scenery here is so wonderful that it is well worth a visit. Here again, with the cutting of the trees, it is not the same, but now it has been made into a Sanctuary by the authorities and it might revive its old form. I am afraid, we shall never see it as we knew it in those days, but we hope our children will be lucky to see it almost as we knew it. But this will depend on the proper protection we give to our jungle friends and trees.

Lastly we come to the Talab Shahi palace which was built by the Emperor Shah Jahan. He used to visit this place for his shikar outings from Agra. It has a big lake which was full of all kinds of ducks and geese and other water birds of every species such as you would find in this part of the world. Some were migratory birds and some were permanent ones. From the palace dining room and the front lawns you could see the birds by hundreds quite close, and these birds were not frightened of man. You could also see a number of big and small crocodiles. They too were not frightened. Some of them would be between 14 and 15 feet long and they would be of the snub-nosed variety. Of these too, you will be lucky if you see one now.

I have ventured to give you a living description of how I saw the old Dholpur Sanctuary. For some of us who have seen it then it hurts to see it in its present state. If something is not done immediately, I do not know what will be left. For those who have not seen it, I have tried to make it as enjoyable and as interesting reading as possible. I hope you have not been too bored. Thank you, for giving so much of your time in reading a real story of the jungles and their condition and of our jungle friends as I saw them during the life time of His Late Highness the Maharaj Rana of Dholpur.

Pratap Singh,
His Highness of Nabha.



The Author feeding a Sambhur Doe.



DISAGREEMENT

Big Game Shooting in Kulu, Lahul and Spiti

Now that the best ranges for markhor, ibex and red bear are either in those parts of Kashmir still under Pakistan or so near the cease fire line that shooting would probably be impossible, it is as well to think of the Himalayan shooting available outside Kashmir and within Indian territory.

It may not be known to the visiting public that red bear are to-day abundant in Kulu; that ibex up to and just over 40" have recently been shot inside the border of Kulu; and that in the little visited Parbati valley, which joins the Beas below Kulu town. all those species with the addition of Barhal are to be found. Beyond Kulu lie the two Tibetan districts of India—Lahul and Spiti—accessible to-day by a mule track open between May and November over the Rotang pass, which it is hoped to make jeepable by 1959.

The red bears of Kulu proper are rather different from those of Southern Lahul, where they are also abundant. The Kulu valley is open to the monsoon and the timber line goes up to well over 12,000 ft., where there is forest of birch and rhododendron. The red bear of Kulu, hibernating in the rocks near the upper limit of timber, when he wakes up in April, comes right down into the forest and is found in April and May at heights of no more than 8,000', close to the snow line, along with his cousin the black Himalayan bear. Visitors to Manali in April or May, by taking a camp up one of the many side nullahs, should be certain of their red bear at this time of the year. He will be found eating grass and searching for ants on any forest clearing. In 1952 the writer saw no less than ten in a two days camp within seven miles of Manali in early June.

Ibex in the Kulu valley have somewhat the same habits. In early spring, April and May, and in late autumn, they make their way down into the forest zone and feed on the grass as soon as the snow has left it in spring, but before the herds of sheep and goats have invaded these forest maidans. After this, in June and July, they are hard to come by and probably make their way into the high ranges of Bara Bangahal, Chamba, Lahul and Spiti. In spring and autumn it should be possible, without going far afield, to shoot a warrantable ibex inside the Kulu border, though a 40" head must not be expected.

Once the Rotang pass has been crossed you are in a different country altogether. There are practically no trees. In Southern Lahul, mainly on the South bank of the Chandra river, there is fairly thick forest of blue pine, juniper and birch. Round Kyelang, the capital of Lahul, there is a considerable juniper forest, and round the villages willows and poplars are grown. Otherwise it is thin pasture leading up to considerable glaciers and snow covered peaks.

The red bear is found only in southern Lahul. But I am told he is a rather extra special red bear with a coat of golden silk, as one shikari described it. While the Kulu red bear has thickets of rhododendron and birch to escape to, the Lahuli bear comes out in the open and is, therefore, sometimes seen from a long way off. Provided that precautions are taken against approaching him down wind, the stalk is not very difficult. Though he is not at all a dangerous animal, he is very tough and takes a good deal of killing. It is, therefore, advisable to get within a hundred yards and use a heavy rifle on him, if possible.

If the sportsman has only a month or so available it is better to confine one's activities to Lahul. One can do a round trip of Lahul and part of Spiti in the time but this leaves very little time for finding and hunting one's game. With a month at one's disposal, it is possible to visit many of the Lahul nullahs and one should in this time be able to get a red bear, an ibex and a really good barhal, while there is always the chance—admittedly a very slight one—of shooting a snowleopard.

Let us assume that we have shot our red bear close to the village of Koksar at the Lahul foot of the Rotang pass. I should mention that the red bear is occasionally addicted to killing sheep, especially in the spring when he wakes up after hibernation and is very hungry. Information of his whereabouts and habits is readily given by the shepherds.

The next item on our programme is an ibex. The same nullahs that provided the red bear also contain ibex. For this animal the earlier in the year you are on the ground the better. Ponies can usually be got across the Rotang pass by the third week in May, but it is possible to cross on foot with coolies somewhat earlier and pick up pony transport at Koksar. The shepherds from Kangra and Kulu are among the earliest to get across the Rotang and to take their herds up the various nullahs that come down to the Chandra river from both sides. Their arrival on the scene is the signal for the ibex to move back up the nullah towards the glaciers at its head, whence they come down to feed in the early morning and towards evening on small patches of grass from which the snow has just melted, often in very difficult places. Moreover, while you will find the big males along with females and the youngsters upto the twentieth of June, after that time they separate from the herd and are found in twos and threes, always higher up. So again the sooner you get your ibex the better. The best method is to find them feeding in the morning, as they are in more open ground and are more easily detected, and again in the evening. While resting, generally among precipitous rocks in the middle of the day, it is very difficult indeed for a trained shikari to pick them out with powerful binoculars—let alone a beginner. As a rough and ready method of judging a shootable head, if the horns describe a semi-circle, it is shootable; if more than a semi-circle it is a really good head of over 40 inches. To distinguish the ibex from the barhal at a distance, the ibex is fawn coloured while the barhal is almost a

bluish grey. Both are terribly protectively coloured. If ibex are disturbed or shot at, after stampeding for a few yards, they will always stop and look round, giving you a second shot. Barhal do not do this, but once started go on for miles. It is very desirable to get within 150 yards before taking the shot. Shooting at high altitudes, when your heart is pumping after a few yards of quick climbing, is not like shooting on a rifle range, or from a machan. If you wound your animal you have very little chance of recovering him. If the ibex really start climbing the rocky precipices, it is very little use trying to follow them. They climb with ridiculous ease in a few minutes what would take the best climbers in the world some hours. Even if you come up to them where they have decided to rest they will have left a sentinel on duty who will give the alarm. It is better to wait for them to return to their feeding grounds in the evening, which they will do unless badly alarmed.

Following the Chandra river downwards, at Sisso a long nullah comes down from the right. This holds ibex, but unless you are there before the shepherds, you will probably have to take a camp some miles up it before you find them. Opposite Gondla there are three good nullahs equally good for ibex, red bear and snow leopard. It is necessary to cross the Chandra at the Chandra-Bagha junction by a good suspension bridge and camp on the south side.

One march above Kyelang, the Capital of Lahul, you come to the Milang nullah. This is a fine big nullah for ibex, but you will have to leave your ponies behind and try to secure coolies. Another march takes you to Patsio. There the Patsio nullah, which comes down to the Bagha river from the east, is a certain ground for ibex and big ones too.

Along the whole of this route there are innumerable nullahs less well known to Shikaris. There is no reason why good ibex should not be found in them. It is a question of time available for exploration. There is something to be said for the argument that the well known nullahs should be omitted and the unknown ones explored.

Thirty miles beyond Patsio you will cross the Bara Larcha La, sixteen thousand feet, and descend gradually towards the Ladak frontier in country which is much more Tibetan than Himalayan. Kilang (or Kenlung) at fifteen thousand feet gives you your last chance of ibex, where two or three glaciers come nearly down to the road and I am told that it is a really good chance. The next march, Lingti at fourteen thousand feet is the Mecca of Barhal-shooters. They are there in quantity and big ones too. A few miles further on you are in Ladak and in the territory of the still more prized *Ovis Ammon*.

The Barhal has a curious distribution. He is found in many places on the south side of the Himalaya—for instance the Parvati valley, upper Bushahr, Jumnotri, Gangotri etc. etc., but, though much of Lahul seems ideal Barhal country, he is only found in this Northern

corner. Generally he inhabits more open country than the ibex, but has the same habit of feeding in the morning and evening and resting at mid-day in nullahs or in rocky places. In a really good head the horns sweep back over the head and neck in much the same way as a buffalo's.

For all this trans-Bara Larcha shooting a primus stove is almost essential. Here and in many parts of Spiti wood fuel is almost non-existent.

The quickest way of getting to Spiti now is to cross the Rotang pass and take the new PWD road to the Kanzam La (15000 ft.) which separates Lahul from Spiti. For a satisfactory shooting trip to Spiti a month and a half is the minimum. In western Spiti there are some very fine ibex nullahs, and, as you make your way down the Spiti river, you come across good barhal country. It is difficult to get over the Kanzam La early in the year, because of snow. North East of the Kanzam La there are paths crossing very high passes, probably inaccessible to ponies, but accessible to yaks, leading to the undemarcated frontier with Tibet. Here is the neighbourhood of the Tso Morari lake. You are certainly in the domain of *Ovis ammon*, and even wild yak are obtainable and may be shot. But very little is known now about this area, though almost a hundred years ago British Shikaris penetrated it. To secure an early entry into Spiti it might be advisable to enter it via the junction of the Spiti river and the Sutlej, using the Hindustan Tibet road from Simla. It should then be possible to work your way up the Spiti river fairly early in the year; and to proceed northward as conditions allowed, and transport became available. As in the case of Lahul, the earlier the better.

An inner line pass for those who are not of Indian Nationality is necessary in Lahul beyond Kyelang and for the greater part of Spiti. In Lahul PWD bungalows are available on the main Ladak route from Koksar to Patsio, but tents should always be taken.

R. L. Holdsworth.

Mahseer Fishing in the North of India

The mahseer, as a fish that gives sport to the legitimate angler, varies enormously in size. In this respect he differs from the salmon. A takeable salmon may vary from the grilse of three or four pounds to the mature fish of over thirty pounds. A mahseer is regarded as takeable when he is over one lb., and he is certainly mature and capable of spawning at this size, while fish may grow to seventy pounds or more. Consequently the mahseer fisherman in the North of India must be equipped with a wide variety of tackle suitable for all sizes. If he equips himself only with the gigantic rods and heavy lines once considered suitable for the 70 pounder, even if he succeeds in hooking the one or two pounders, he will get no sport with them. He will get little more if he hooks the medium sized fish from five to ten pounds, since his tackle is so ponderous that they will scarcely be able to put up a fight. If he wants to enjoy mahseer fishing, whatever size the fish may be, he will use three rods, each with their particular reel. For the small tributary streams and the lakes in the Naini Tal district, where the average run of fish are under two pounds he will use a trout fly rod, a fly reel, and trout flies, or a fly spoon. Where the mahseer run bigger, in the larger tributary streams and the big rivers, when the water is at its lowest and clearest, but where the fish are not expected to exceed twenty five pounds, he will be well advised to use a 'threadline' outfit. This consists of a light rod of cane or glass about six feet in length. The reel is a non-rotating, fixed-spool reel containing a very thin line of nylon gut or very fine silk with a breaking strength of from three to ten pounds. The baits consist of light 'plugs', spoons, artificial 'minnows' or 'dead bait' of not more than $\frac{1}{4}$ of an ounce in weight. The way in which the fine line comes off the fixed reel enables him to cast his bait up to and over thirty yards, if necessary, and, a 'slipping clutch' device prevents the fish from breaking the very fine line. The advantage is that in very clear water the line is almost invisible to the fish. For the main rivers, and for the tributaries when the water is higher, and where fish over thirty pounds are expected, he will use a short rod ($4\frac{1}{2}$ to $5\frac{1}{2}$ ft.) of glass, or steel with a 'multiplying reel', carrying a silk line of 10 to 20 pounds breaking strength. With this he can cast a fairly heavy bait—plug, large spoon, artificial minnow or fairly large dead beat upto forty yards or more, and he can deal with any mahseer that he is likely to meet.

It may be considered that three rods, each with a different kind of reel and line is an expensive outfit—and so it is. The mahseer, however, differs so much in size and is found in such different kinds of rivers that some variety of tackle is essential. I recently met an angler who had come up to the Kulu valley determined to catch trout, and armed only with mahseer tackle capable of landing a 50 pounder, but quite incapable of casting the small lures needed for the Kulu trout, which average about $\frac{3}{4}$ of a pound. If your object is the big fish only, you will catch them on the multiplying reel and rather large baits, but this

outfit will be quite useless on the small hill streams where the mahseer run small, or on bigger streams when the water is very low.

Having decided on your outfit, you will then have to make up your mind where to go for your fishing. The North of India, excluding Assam and Bengal, gives you a huge choice. I do not propose to deal with the rivers that come down from the Nepal Himalaya, because most of the mahseer fishing stretches are outside Indian territory. I propose to start from the North West and work gradually South East.

To begin with, there is mahseer fishing in the Jhelum river in Kashmir, both above and below the town of Baramula. Mahseer in this stretch run large and some real monsters have been caught, particularly where the Jhelum issues from the Wular lake. Here you will be wise to use your heavy tackle and your multiplying reel. I rather think that June to September are the best months. Earlier and later the fish are further down the river in Pakistan territory.

Next we come to the Jammu Tawi, which can be fished from Jammu city or Udhampur. This is a delightful stream of medium size and particularly suited for fishing with the thread-line rod and reel. The best months would be March to June and again October to December.

Some fishing may be had in the reaches of the Ravi river where it issues from the hills and the fish will run big. Dalhousie or Pathankot might be used as centres, and the best months would be October and November, and again from March until the river becomes too thick with snow-water. It must be remembered that mahseer are semi-migratory fish.

Wintering in the big pools of the rivers, they begin to move up the tributary streams in the spring when the water in these streams begins to rise. They spawn mainly in June and July in the tributary streams, and then begin to work their way down to the big rivers in September when the snow water is clearing up. Some of the smaller fish, and a very few of really big ones, remain in the deeper pools of the tributaries throughout the winter, but are almost impossible to catch them with rod and line.

Leaving the Ravi, whose best stretches suffer from inaccessibility, we come to the Beas. This is possibly the best of the big Punjab rivers. Big fish are caught from Talwara Dak Bungalow near Mukerian. Another good place is Dera Gopipur where the Hoshiarpur-Kangra road crosses the river by a beat bridge. A permanent bridge is now under construction. In both these places autumn and spring are the best times for fishing. Above Dera Gopipur good fishing may be had in the Beas and its many tributaries from Kangra. Baijnath on the Kangra-Mandi road has an excellent bungalow and good fishing with the threadline outfit for medium sized mahseer. Here the tributary

stream would give good fishing until it becomes too swollen and dirty by monsoon rain in July. Good fishing again may be had at Mandi, where there is a dak-bungalow, at the junction of the Sukheti stream with the Beas. I should particularly recommend the mahseer fisherman to stay a few days at Pandoh, some ten miles above Mandi, where there is a P.W.D. bungalow. From here two tributaries, the Juni Khad and the Rana Khad, form junctions with the Beas. Both streams run clear throughout the monsoon season, except when heavy rain is falling, and are ideal for threadline fishing. Big fish are found at the junctions and heavier tackle is recommended there and in the main stream.

Leaving the Beas we come to the Sutlej. The parts of this river which would normally offer the best fishing between Bilaspur and Rupar where it issues from the foothills, are now the scene of India's greatest engineering project, the Bhakra dam. Mahseer fishing used to be enjoyed at the Rupar Headworks of the Sirhind canal, but I cannot say whether this is still the case, after all the upheaval and disturbance of the Sutlej waters.

We now leave the waters that eventually join the Indus and approach the Jumna-Ganga system. The Jumna gives very good mahseer fishing throughout its passage through the Siwalik hills from Kalsi to Tajuwala. Dehra Dun is the obvious headquarters to use, and there are bungalows at Kalsi, Rampur Mandi (where the Jumna may be crossed by ferry), Khara and Tajuwala. The main river may be fished from both sides, and both threadline and the heavier outfit have been used successfully. Fishing is good from the end of September to November, and again from February to the end of May, when the river is dirtied by snow water. Within this area the Jumna receives two important tributaries which used to be fine mahseer streams of medium size. Rising near Simla, the Giri flows through Sirmoor State and joins the Jumna opposite Rampur Mandi, and used to be one of the best mahseer streams in India, its mahseer protected by the Giri Fishing Association. Mahseer of all sizes used to go up it to spawn, and gave splendid sport from the end of September to November and again from March to June. I am told that the Himachal Pradesh government want to convert its upper waters into a trout stream and have sanctioned the clearing of the mahseer out of the river by every method, including explosives. This is a pity because it will never make a trout stream, but mahseer will continue to go up it to spawn. Those that escape the nets and the dynamite will eat the trout, and a glorious stream particularly suited to the threadline angler will be ruined. A still gloomier story has to be told of the other tributary—the Ahsan, which joins the Jumna at Rampur Mandi on the Doon side. A five mile stretch of this valuable spawning stream used to be preserved by the Dehra Dun Angling Association, which was liquidated, through lack of support, in 1947. Since then the stream has been at the mercy of contractors who net unscrupulously every fish above three inches, and it must be confessed, of Bombers.

The junction of the Ahsan-Jumna used to be a famous place, but it cannot survive such treatment.

The Ganges flows along the eastern boundary of the Doon, and from Deva Prayag down to Hardwar is a famous mahseer stream containing some enormous fish. Dehra Dun is the obvious centre to use, and the river may be reached by rail or road in the very centre of the fishable area at Raiwala junction, where there is a railway bungalow and the Forest Department have taken over the old Fishing Association bungalow at Sat Narayan. From either of these two bungalows magnificent fishing in the Ganges can be obtained from the end of the monsoon to November, and then again from February to May. There are places above Rishikesh that are worth a visit at this time and between Raiwala and Hardwar. Just above Sat Narayan the Ganges receives its most important tributary the Song, and just above Lachiwala (11 miles from Dehra Dun by road and rail) the Song receives an important spawning stream, the Rai Naddi. In spite of heroic efforts by the Forest Department, these streams have been cruelly maltreated. A number of Gurkha pensioners have been settled on the land near Lachiwala, and since the war, these people have been regularly supplied with explosives by their friends and relatives in the armed forces, who have themselves sometimes assisted in the bombing operations. Every year mahseer go up the Song and the Rai Naddi to spawn. Every year they are decimated by explosives and netting.

In spite of this, good fishing can still be enjoyed at Lachiwala during the monsoon, whenever the water runs clear, and before the villagers can get into the river. At Kansrao, where the Song runs through a game sanctuary, the Forest Department have been more successful in checking poaching. Here, on payment of a small fishing licence, very good fishing in the Song can be got towards the end of the monsoon. The stream is pretty strong at this time, but can be fished by threadline, though there is good chance of hooking a really big fish which will tax your tackle to the utmost. The Song can also yield excellent fishing both in autumn and spring below Sat Narayan, provided that explosives have not been used.

East of the Ganges a number of tributary streams pass through the submontaine tract of forest. West of Ramnagar the Ramganga issues from the hills, passing through glorious forest scenery. It can be reached from Naini Tal or Ramnagar by road, and Forest Rest Houses are available. It is a fair sized stream and ideal for threadline fishing. At Ramnagar itself the Kosi flows for many miles by the side of the Ramnagar-Ranikhet road, all of it good fishing. East of Ramnagar there is another stream, the Boar river. These jungle streams are best fished when they are not too low, in the autumn. By midwinter they contain few sizeable fish, and these are very difficult to catch. But just after the monsoon and later, from April to June, when they are filling up again, are the best months.

As they pass through some of the most famous shooting blocks, there is always the interest of watching other game besides fish. Sportsmen who have taken one of these blocks for tiger shooting might well employ the days when there is no 'kill' in fishing; without disturbing the jungle, as one would by shooting jungle fowl or deer, one may pass the time profitably and add variety to one's diet. There is a very good chance, too, of seeing your tiger as well as other animals by the water side.

Finally on the very borders of Nepal we come to our last big river, the Sarda. The best base to use for this river is undoubtedly Tanakpur, which is served by railway and road, and where there is a Forest Rest House as well as a Dak Bungalow. I have never fished this river at the best time (October and November and from March to May) but it is a fine mahseer river for some miles above and below the town, particularly, I believe, above. It might be fished with threadline or heavier tackle, since very big fish run up it. In all these Northern India rivers the angler should watch for the runs of chilwa, particularly in spring. These are small fish, up to four inches long, which, like the mahseer, make their way upstream to spawn in countless thousands. When there is a run of chilwa you can be fairly sure of sport being fast and furious, whether you spin a dead chilwa, or use a plug or spoon to imitate him.

Mahseer fishing in India is free except where streams flow through government reserved forests, where a small seasonal fee is asked for. The fish itself, though not so good to eat as a salmon, is not to be despised, and gives just as great—many think greater, sport at a small fraction of the expense.

R. L. Holdsworth.

Lion Implanting in India

The Lions of Gwalior.

The first attempt at implanting lions in any region of India was carried out by the late Maharaja Sir Madho Rao Scindia of Gwalior, more than forty years ago. Lions once existed in his State and he resolved to try and re-introduce them. He imported three pairs of lions from Africa in 1916. These animals were confined in a stone wall enclosure, 20' high, at a place called Dobe Kund between Sheopur and Shivpuri, which is in the heart of a forested area of nearly one thousand square miles. The animals were kept in this enclosure for about four years until they became acclimatized and were fed on live buffaloes so that they might not lose their ability to prey on live animals. The place was in the midst of forest containing many tigers, which were attracted to the spot by the roaring of the lions.

The lions were released in pairs, the first pair being released in 1920. The animals disappeared into the jungle. When the second pair was released, the lions came back to their 'home' and remained outside the enclosure. They once attacked and snatched away a buffalo from the men who were taking a supply of the food to the enclosed lions. Eventually the male was killed by a tiger and the female disappeared. The 3rd, 4th and 5th pairs gave no trouble and disappeared into the jungle. The 6th and last pair proved very troublesome and became cattle marauders, and, when they killed a man, they had to be destroyed. Most of the animals (10 in number) that disappeared into the forest went eastwards and southwards. Some of them were shot near Panna and Jhansi in the east and some at Kotah in the south. Even after 1950 one of the lions was shot by the Maharajah of Baria on the Kunoo river in Madhya Bharat.

On the whole, these lion implanting experiments are to be considered more of a success than a failure. The real cause of their failure to multiply and re-establish themselves in Gwalior must remain obscure, but it is probable that most of the lions released were killed by tigers, for it is a fact that the lion cannot hold its own against the tiger.

The Lions of Chandraprabha.

Since the creation of the Indian Board of Wild Life the authorities have been anxious to ensure the future of the lion by implanting it in some other parts of the country instead of having it confined, as it now is, to a small area of 500 sq. miles of the Gir forest in Saurashtra, where there are between 250 and 300 lions to-day.

In response to their suggestion, the Govt. of U.P. offered to provide an alternative home in the Chakia Forest of Varanasi (Banaras) Division, largely because it has similar vegetation,

terrain and climate to the Gir forest. The area was called the Chandraprabha Sanctuary and arrangements were made in 1957 for the transfer to it of some lions from Saurashtra. The total area of the Sanctuary is about twenty seven sq. miles and it is situated about forty two miles south east of Varanasi, on the P.W.D. road to Chakia and adjoining the Chandraprabha dam across the river of that name. As the locality is infested with cattle it was decided to fence the sanctuary and accordingly a nine foot high barbed wire fence was erected around the twenty eight mile perimeter at considerable cost. Within this, an inner enclosure of ten acres was fenced with woven-wire netting up to a height of six feet, with seven strands of galvanized wire, making the total height of the fencing twelve feet. This fencing was camouflaged with brush wood and reinforced inside by four feet of thorny bushes.

A lion and two lionesses, which had been captured and kept in the Shekerghar zoo in Saurashtra for about 9 months, were transported by rail from Junaghad to Chandrabha in November, 1957. The lions were released by the Chief Minister of the U.P., Dr. Sampurnanand, with considerable ceremony on the 2nd December, 1957. The three cages were placed inside the enclosure with four buffaloes and a goat tied before them. By a system of pullies and ropes the doors were lifted simultaneously from the twenty foot high machan constructed outside the enclosure and some fifty feet from it. The object of releasing the lions in this inner enclosure was to phase the release in two stages. It was feared that as the result of their long captivity and confinement in small cages for about three weeks, the lions would be unable to hunt for themselves and so the baits were given. But although the animals were kept hungry for two days before the release, they ignored the baits tied for them and when the gates were released they dashed out of the cages. The younger lioness burst through the fencing and disappeared. The other two fortunately remained inside the enclosure. After a short while, the younger lioness re-appeared at the spot where she had broken through and the three lions, after taking a good look at the spectators on the machans, disappeared into the jungle, one outside the enclosure and the other two inside it.

The spectators, who had been startled and alarmed, left the place, wondering what would happen. The inner enclosure was broken down on the 8th January, 1958 and the lions were freed in the larger sanctuary area. All this while, i.e. for a period of nearly one month, they were fed on live baits introduced into the enclosure through a double-door gate, on alternate days for the first fortnight and thereafter every fourth day. For the lioness outside the enclosure live baits were also tied nearby. The three animals joined up and soon settled down in their new surroundings. Once or twice a fortnight live baits were tied near three machans constructed in the area for visitors but for most of the time they subsisted on the game in the sanctuary, mainly on nilgai and sambhar. In October last,

the news was published that lions had broken out of the fenced Sanctuary. The pregnant lioness then gave birth to a single cub, which has since disappeared. The lions are now wandering far afield. If they attack domestic cattle in the areas adjoining the sanctuary the hand of man will be turned against them. In this connection the startling news that 22 lions have been killed by the people of the Gir forest through spraying of carcasses of cattle with rat-poison is an ominous augury for the future of the Chandraprabha lions.

The problem that confronted the U.P. Government and the Forest Department, when they first agreed to take a few lions into the Chandraprabha Sanctuary for resuscitation of the species in a new home, was no doubt a difficult one. On the one hand they wished to re-introduce the lion within the territory where it once existed and on the other there was the apprehension of unfavourable reactions from the local people who might naturally fear that their cattle would become the prey of the new residents. But refusal to face any problem squarely is no help to the final solution of the problem, and if it is the hope of the U.P. Government that the lions will not kill a few domestic cattle then that hope is doomed to disappointment. Habituated as they were to the killing of Mahaldaries' cattle and buffaloes, it would be ostrich-like to ignore the certainty that they will kill a few cattle in their new home.

Only two alternatives offer themselves, therefore, if the experiment is to be persisted in:—

- (i) To re-stock adequately the areas with natural game (while at the same time rigidly protecting this game from being killed by poachers and being over-shot by sportsmen).
- (ii) To tell the people that the lions must not be touched whatever the circumstances, and that it is part of the policy of the Government to restore them to their ancient kingdom, *while at the same time paying fair and adequate compensation for any cattle killed*. Strictly speaking the latter should apply only to the Sanctuary proper in which grazing has been declared prohibited, but it would be a wise decision to pay compensation for *all* cattle wherever killed, at least for some time to come, now that the lions have broken out.

The same problem confronts the Assam authorities in their task of protecting the Great Indian Rhinoceros. This animal cannot obviously be confined to the Kaziranga or any other Sanctuary within which it is found, and the neighbouring crops of paddy are inevitably raided by them. So far the weight of authority has saved such crop-raiding rhinoceros from being shot and killed, but should the people refuse to accept the losses which they suffer, then the only course left open is to pay compensation for the damage caused by the rhinoceros. For it must always be remembered that we cannot erect a "Great Wall of China" between us and our wild life.

Editorial Notes

REVIEW OF GAME PROTECTION IN THE PUNJAB.

The Annual Reports of the Game Preservation Department of the Punjab for the years 1953-54, 54-55, and 1955-56 make interesting reading. The Punjab, which was the first to have a special organisation for the protection of the wild life in areas outside the Reserved Forests under the Punjab Wild Birds and Wild Animals Protection Act II of 1923, the rules under which were notified in 1934, had a Game Warden as head of the Game Department from 1934. The first Game Warden was Mr. A. M. David, I.F.S. who worked until the war when he was recalled to the Forest Department. For some time until 1944 the Department was under a fisheries research officer. From 1945 Shri Angad Singh who had been in the Department since 1935, took charge. In 1935, three posts of the Game Inspectors were sanctioned and still later the strength of the staff was raised by 24 Game Inspectors, 1 Dy. Game Warden and 200 Game Watchers. After partition, the posts of one Game Warden, 13 Game Inspectors and 95 Game Watchers fell to the lot of East Punjab. With the separation of Simla District which went to H. P., the strength was reduced to one Game Warden, 12 Game Inspectors and 91 Game Watchers. In 1954-55, two posts of Divisional Game Inspectors were sanctioned to assist the Game Warden in the supervision of the work of the District Game Inspectors and two of the posts of the Game Inspectors were made Selection Grade posts with higher salary. In addition, 2 peons' posts were created.

In 1956-57, with the merger of PEPSU and Punjab, another post of Divisional Inspector, one post of Inspector and fifteen posts of Guards were added. The increase in the emoluments of the Supervisory Staff was reflected in an increase of their interest in their work.

Thus it will be seen that the Punjab has, consistently for the past 25 years, been protecting wild life in areas outside Reserved Forests and in recent years the intensity of the protection has increased. There are proposals for further increase of staff. Meanwhile, the post of Game Warden has been re-designated as the Conservator of Wild Life with transfer of the Department to the Forest Department in 1957.

Turning to a comparison of the offences and the prosecution etc., these are shown in a comparative tabulated statement below. The complaint that District Magistrates are too lenient in punishments inflicted for cases and the difficulty experienced that Magistrates generally require the evidence of independent witnesses, is not a new one, nor is it common to the Punjab. Two employees of the Forest Department together do not constitute independent witnesses and the difficulties of the Game Department staff in this connection can well be imagined.

The financial position over the last 8 years is also shown in the tabulated statement below. The increase of revenue is due to increase of the shooting license fees by more than 100% to Rs. 15/- and stricter control and insistence on issuing of shooting licenses. In the Punjab, a

gun licensee must take out a shooting license if he wishes to shoot any game and the organisation for ensuring that this is done, is the Game Department. In the report for the year 1953-54 it is mentioned that a large number of arms licensees used to purchase from 200 to 500 cartridges per year to shoot without proper licenses and it was decided to invite such licensees to obtain shooting licenses or, on their refusal to do so, to restrict their limits of cartridges to 25 each. This is a very salutary action.

An interesting feature of the work of the Punjab Game Department is the organising of Shikar Clubs in the last three years in most of the districts. It is recorded, however, that the interest of members in these clubs has been comparatively luke-warm. Similarly the Fauna Committees of the Districts formed long ago under the Wild Birds and Animals Protection Act have displayed activity in direct proportion to the interest taken by the Dy. Commissioners, who are Chairmen of these Committees and with a few exceptions this interest has been of a very low order.

Another feature of the propaganda being carried out by the Game Department of the Punjab is the organising of exhibitions of stuffed animals and birds, posters, slogans, etc. at rural and urban fairs and political and social conferences and the delivering of speeches through loud speakers. These have served to attract large numbers of the public.

A part of the general work of the department is to regularly inspect hotels, markets, octroi stands and booking offices for illegal possession, sale or consumption of game. It may be noted that in the Punjab, the netting of game of all kinds is prohibited.

For protection of game, there are certain areas declared as Sanctuaries. For instance, in the Kulu Forest Division, certain forests have been declared as Sanctuaries and closed for the shooting of birds for 3 years. A number of other Sanctuaries exist in the reserved forests, and there is a proposal to establish one in the Kalesar Reserve on the border of U.P. and Punjab. There are also several Sanctuaries in the non-reserved areas.

The reports clearly reveal the value of a special organisation for the protection of game in the areas outside the reserved forests and the example of the Punjab is one which should be copied by other States at the earliest possible opportunity. There is absolutely no reason for leaving the wild life in the areas outside the reserved forests to their fate, as is the case now. There should be a special branch of the Forest Department for this work and the model for this has been shown in the last issue of "The Cheetal". Unless State Govts. are prepared to spend money on the preservation of their wild life in a much more massive manner than at present, there will soon be no wild life left except in the Reserved Forests and Sanctuaries of the country. The renaissance in Indian art, culture, music, drama and literature etc., does not appear to have yet extended to wild life, which is a large part of our culture, as in other facets of our national existence. The time is, therefore, long overdue when special branches of the Forest Department are to be created to look after the wild life in areas outside the reserved forests in States.

I. COMPARATIVE STATEMENT OF OFFENCES

Under the Punjab Wild Birds and Wild Animals Act II of 1933

Year	Offences lodged in court	Convicted	Acquitted	Filed	Warned	Pending	Fines realised
1953—54	2297	1456	114	223	32	472	Rs. 14,047/-
1954—55	2121	1690	366		28	674	Rs. 14,684/-
1955—56	2031	1371	59	184	3	414	Rs. 11,358/-

II. Financial Result of Working of Punjab Game Department

Year	Revenue (License Fees)	Expenditure (Staff)	Profit
1953—54	{ 3,32,453/- 31,996/- Delhi	1,28,813/-	2,35,636/-
1954—55	3,12,349/-	1,27,156/-	1,85,193/-
1955—56	2,91,380/-	1,30,444/-	1,60,936/-

OPERATION DEER RESCUE.

Bambi was a little cheetal deer fawn which was brought 14 years ago to an old crippled lady living in Dalanwalla, Dehra Dun. He was brought up on a bottle and when he became too old to be left alone he had to be enclosed in a wire-mesh enclosure. For the first 9 years of his life he led a sterile existence and when he had reached his full adult life his calls for a mate during the rutting season would keep the neighbours awake at nights. Once it was decided to shoot him and only the intervention of a neighbouring doctor, who came forward and administered tranquillizing pills, saved the situation.

Then came another little cheetal deer, this time a female, and when she was old enough she was released into Bambi's enclosure. Biddie, as she was called, produced two fawns which the sentimental old lady christened June and Julie, after the months of June and July when they were born. The little family were jogging along, leading a placid existence when the old lady died. Her last words were "destroy my pets" and it was only the fact that Biddie was to have another fawn that saved them. The daughter came down from Calcutta to break up the old home and she was faced with a problem—who would take four cheetal deer and look after them adequately?

By a stranger coincidence, at that very moment the Wild Life Preservation Society of Northern India was born and when the organisers heard of the cheetal deer and the fate that awaited them, they came to the rescue. In collaboration with the Wild Life Club of the Forest Research Institute and Colleges the deer were offered a home in the spacious F. R. I. estate at New Forest. But cheetal are destructive where gardens and plants are concerned and so they were not allowed to roam free, or was it economically possible to enclose a very large area. So a small enclosure was hurriedly prepared in a shady grove of trees. Everybody was sympathetic but everything had to be obtained the 'hard way'. Barbed wire and housing material had to be purchased. Luckily the trees largely served as posts. The slender funds of the Wild Life Club, and later of the Society, were put to the test—the eventual cost of the whole operation has come to about Rs. 1000/-. The student members of the Wild Life Club gave the necessary labour.

But the real problem was to move the deer from the city to the outskirts of Dehra Dun, over four miles away. An unused fowl-run was borrowed and strengthened, and a drop gate arrangement was made. Bambi gave no trouble to come into the trap when he was offered some succulent fruits and vegetable tops and he was soon transported on a lorry and released in his new home. Biddie was a little more shy to enter the cage but she was also transferred successfully. The two daughters were, however, a different proposition. Apart from the fact that they had never been handled as babies, though they had been born in captivity, they had seen their parents being trapped and carted away.



BAMBI

TREE-TOPS HOTEL



INDIA

Photo by B. Mitchell



AFRICA

For over a week they refused to enter the cage and practically starved, because it was necessary that they should not be given food outside the cage. Time was getting short and it was eventually decided to drive them into the trap. The bolder hind went in first and the door was dropped. The younger deer vainly battered at the door trying to get in to join her sister. A football net was thrown over her and she was captured and her legs were tied. Unfortunately during the two hours it took to transport her to the new home she struggled so hard that she died of heart-failure. It was a lesson to the handlers, for it had not been realised that deer were such delicate creatures.

Then came the problem of moving another cheetal hind, named Ladybird, which her owner, a European lady who was leaving, presented to us. She had also been brought up on a bottle and had led a very secluded existence for nearly five years. She gave no trouble to get into the cage but when she was released into the enclosure she was, strange to relate, terrified at the sight and proximity of her own kind and dashed through the wire and escaped. For 2½ hours on a hot Saturday afternoon she played hide-and-seek with an army of willing assistants trying to re-capture her. She was noosed twice but got away and finally it was by a stroke of luck that a rugby-like tackle brought her down. A football net was thrown over her and she was roped. The travelling cage was then brought to the spot and she was released into it. For five days she was kept against the enclosure with the wire-fencing separating her from the other cheetal. Finally, when the enclosure had been strengthened and enlarged she was released into it. It was strange to see the other deer chasing her and trying to bite her, and to this day she has not been allowed to join the main 'family' and lives by herself in a corner of the cage. Only Bambi found her company welcome!

"Operation Deer-Rescue" has thus been brought to a successful conclusion and the four cheetal deer pets which faced an uncertain future, have been ensured a comfortable future. Two male fawns have been born and a third is well on its way. There will be a problem in a short while, for the ageing Bambi must not have any young rivals to threaten him or to take his place—at least not yet. But we shall face them cheerfully.

The Wild Life Club,
Forest Research Institute & Colleges.

TREE-TOPS HOTEL.

This is the name of the famous hotel built on the top of a tree, ten miles from Nyeri in Kenya (Africa), from which wild animals are viewed as they drink water and eat at the salt-lick within close range below. This hotel was destroyed during the Mau Mau disturbances and the tree was burnt, but it has been rebuilt on artificial supports and is as popular as ever with tourists.

The hotel consists of temporary residential accommodation surrounded by a verandah and is about 30' above the ground. There are six suits of rooms and altogether fourteen beds. Sanitary-fitted bathrooms are provided and there is a bar, while food is of course supplied. Visitors are taken out each evening before dark in station-wagons to the edge of the forest, from where there is a walk of $1\frac{1}{4}$ miles to the tree-top machan, (for that is what it is). The party are escorted by two white hunters armed with rifles, and along the path there are trees with machans and ladders, so that persons can climb up to safety in case dangerous wild animals are met with. A powerful searchlight on the roof of the building lights up the surroundings on dark nights, and the rooms are provided with electricity from a generator, the noise of which can be faintly heard in the distance. On any night rhinoceros, elephant, buffalo, deer and pig can be seen drinking and eating at the natural 'salt-lick', which is an expanse of water 8-10 acres in extent. The charges are £5 per night and the money is refundable if elephant, buffalo and rhino are not seen. Visitors may go to sleep sure that they will be called when the animals come, which is often past midnight.

'Tree-tops', as it is called, is only 12 miles from the town of Nyeri and is within the Aberdare National Park, but farm-lands are not very far away and persons in the hotel can occasionally hear the noises of domesticated animals along with those of the wild. It is proof of how accustomed to civilisation, even the largest wild animals can become when they are conditioned and their environment is undisturbed. And by man's ingenuity 'Tree-tops' is literally an arm-chair nature observation post.

The question is whether in India we could develop such tree-top hotels for the benefit of tourists. In the U.P., several machans have been built in the Hailey National Park and in the Kansrao and Rajaji Sanctuaries of Dehra Dun and Saharanpur divisions respectively. These are of a very permanent nature, being one-room structures, with a verandah all round, on high, brick pillars and are comparatively expensive affairs. Most of the towers have been built with a view to their proximity to inspection bungalows and roads and are fairly easy of access to visitors. But only experience will show whether the selection of the sites have been ideal. No preliminary trial attempts were made to select the spots. In the Kaziranga Sanctuary of Assam, temporary machans were constructed in the tops of suitable trees overlooking places, which wild animals were known to haunt on a trial-and-error basis and their is a permanent house standing on high supports and surrounded by a trench, on the bank of a stream bordering the Sanctuary, where animals, particularly rhinos, are always visible.

The appearance of animals at the towers in the U.P. Sanctuaries during the day has, so far, been disappointing. In one case (Kansrao), the site is exposed to cattle and human beings and it is unlikely that any wild animals will come to the spot. The other Kansrao machan has been built in a secluded spot on ridge and there is a cement water-trough to which, however, water has to be carried by hand from a stream below, while an attempt has been made to create an artificial salt-lick. The Dholkhand machan in the Rajaji Sanctuary is in an ideal place and there are plenty of tracks of animals visible around the spot, but

so far visitors have seen no animals during the day. The machan near Mohand is over the only water-hole in the locality during the dry season, which is visited by the cattle grazing in the Sanctuary and though it is comparatively undisturbed during the day persons who have sat up have not seen any animals.

As in the case of the African prototype, it is highly unlikely that animals will come to these machans except at night. Unless there is a sufficiently large tourist support it will not be possible to provide the electricity for an 'artificial moon' by which to view animals, as in Tree-tops, and until that time comes the machans will be serving no useful purpose. Nor is their existence known to more than a handful of people at present.

It would appear, therefore, that the whole question of *permanent* look-out machans for viewing and photographing wild life in our Reserves, Sanctuaries and National Parks should be carefully considered. A hotel like Tree-tops, which is practically a self-contained house and which is fully controlled by attendants and others, is one thing. Comparatively isolated machans of a substantial and permanent nature, erected in our forests and left alone except for an occasional visit by patrolling staff, is quite another. The possibilities in the latter case are rather disturbing, the more one considers them, for unless adequate precautions are taken we will be providing machans for poachers rather than for legitimate visitors !

We doubt whether visitors, even the most affluent, will pay £ 5 for the very remote possibility of seeing any form of wild life more exciting than a jackal. Cheetal are in any case best observed, where they are reasonably plentiful, from elephant back by day.

The criterion for a position for a machan should be, not its accessibility to motor-traffic, but its sitting in a position where pig, deer, tigers and panthers are likely to pass, near permanent water, if possible. The keen visitor will not object to a mile or so of walking. He should be content with a reasonably comfortable platform in a tree, on which he can spread his bedding. A forest guard, armed with a spotlight may be with him, and will wake him up and turn on the light, when there is anything to see. The possibility of accustoming the animals to an artificial moon in the shaft of a powerful searchlight is remote. African wild life must be much more confiding than ours. The Tree-Tops Hotel, with its staff of servants and its visitors, must inevitably make a certain amount of noise and it is strange how the animals stand it. Ours certainly wouldn't. Those who have sat up, often vainly, for a tiger over a kill know only too well that a single cough is likely to induce his majesty to postpone his meal indefinitely. Our pig and deer, being more heavily poached than in Africa, are now almost equally wary. The observer of wild in any of our sanctuaries must be prepared to observe absolute silence during his vigil. It must be emphasized that it is a vigil and not a party.

In India, sanctuaries would be far more effective if there were no grazing allowed at all, and the absolute minimum of felling and grass cutting. From November to March our U.P. forests are alive with 'homo sapiens'. The wild life is there all right, but it is, very

rightly, retiring in its habits. If you are making sanctuary, why not make it a real sanctuary? The exploiting of the forests goes on in the reserved forests. Would it mean a great loss of revenue if, in the Dehra Dun and Saharanpur Sanctuaries at any rate, grazing was entirely forbidden?

MISS MAGGIE CORBETT

Miss Maggie Corbett, sister of the late Jim Corbett, has donated a sum of Rs. 500/- to the Wild Life Preservation Society of Northern India. This amount will be used by the Society to found an animal prize to be named the "Corbett Prize", for the best effort on wild life preservation by a school boy or girl in Northern India.

"Who's Who" in Wild Life Conservation

Dr. Bains Prasad is one of India's better known scientists though he has passed his whole career in Government service.

He was born in 1894 in the Punjab and was the first Doctor of Science from the Punjab University, 1918, being awarded the Doctorate for a thesis. All previous Doctorates in the University had been awarded *Honoris causa*.

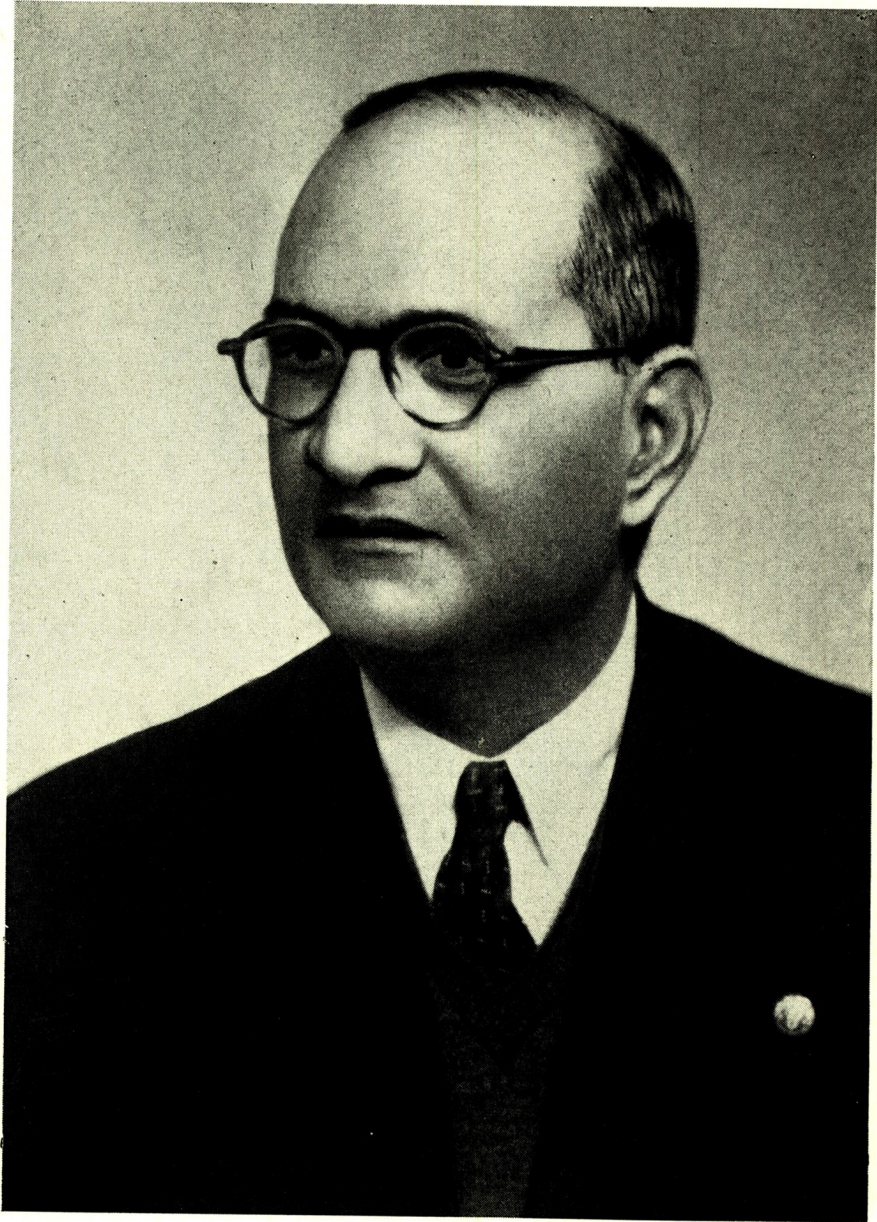
He joined the Zoological Survey of India in 1920 and represented India in the International Congress of Ornithology at Copenhagen in 1926 and again at Amsterdam in 1930.

He became the first Indian Director of Zoological Survey of India and later Fisheries Development Advisor to the Government of India.

During his stay at Calcutta, he was the Chairman of the Committee of the Management and Ex-officio Trustee for Indian Museum for over 20 years.

He was the President of the National Institute of Sciences of India in 1942 and 1943 and of the Zoology Section of Indian Science Congress in 1923.

He was a member of the Indian Delegation to the Food and Agricultural Organisation of the United Nations at its first session at Quebec in Canada in 1945 and 2nd session at Copenhagen in Denmark in 1946.



Dr. BAINI PRASHAD



“ATTENTION”—सावधान

Photo by Ramesh Bedi



“STAND EASY”—आराम से

Photo by Ramesh Bedi

He was the first President of the Indo-Pacific Fisheries Council.

He was awarded O.B.E. in 1943.

Dr. Bains Prashad is a Life Member of the Bombay Natural History Society. In his capacity as the Director of Zoological Survey of India he carried out intensive campaigns for the protection of Indian fauna and two of his contributions, viz. (Presidential address to the National Institute of Sciences in 1943 and (ii) Joint paper with Dr. T. J. Job in the Proceedings of the United Nations Science Conferences are of special interest. He says that his first interest in wild life was aroused when he was travelling with the late Mr. Peter Clutterbuck, who was then the Inspector General of Forests. While Dr. Bains Prashad's main achievements have been with the study and organisation of the fisheries, he has found time to devote some attention to the mammal fauna as well.

Since his retirement in 1953, he has been working on the preparation of Hindi Terminology for Zoological and Medical Sciences. The Zoology Unit of the Editorial Staff of the "Wealth of India" Dictionary is also working under his direction.

He has published numerous papers mainly on Fish and aquatic life. He was the editor of "Progress of Science in India during the past 25 years".

Dr. Bains Prashad has also a great interest in History. He has studied intensively the Sultanate and Mughal periods and he has translated a number of important historical works from Persian to English.

The Wild Life Preservation Society of Northern India has rightly honoured Dr. Bains Prashad and itself by making him an Honorary Member of the Society.

At over 65 years of age Dr. Bains Prashad is hale and hearty and we wish him many years of work for wild life in India.

It Happened in Northern India

1. "Doing it the .22 Way."

From a recent (November 1958) article in the Statesman on the use of the .22 Rifle.

"There was a glade I knew which a group of five pea-hens would regularly visit. After observing them for a number of consecutive days I picked off four one evening. After each shot the survivors would retreat into the forest, but as they never sighted me (I was in a hide-out) they came back again and again".

(Editor: Why did he not complete the bag and slaughter the last one? Or, being young, did his patience give out?)

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2. 'Who will look after the guardians themselves?'

A senior officer of the Services posted at.....surrendered his shooting license. He then went out shooting partridges and was caught red-handed by the local game staff. His case has now gone to the courts.

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Another officer in the same station was detected using a .22 rifle on doves. He is being prosecuted. (Editor: It may be stated that shooting in this State in areas outside the Reserved Forests can only be done under a license).

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A 'Conservator' was observed bombing fish by two tea planters in the neighbourhood of their garden. (Comment superfluous).

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A so-called "Shikar Club", having been allotted the most coveted block in the neighbourhood, shot it, not once or twice, but consistently, by spot-light from a truck at night time. Moreover they were after deer.

Editorial Comment: Crime No. 1. Shooting from a vehicle at night with a spot-light.
Crime No. 2. Shooting Cheetal out of season.

We are not informed what they shot, but if they shot any sambhar, unless it had horns of over 32" it was a third breach of the local game laws.

This Club or any of its members should not be allotted any block in future unless the Forest authorities are satisfied that their morals have improved.

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A Military Officer, who had obtained a Birds and Ground game permit in the Division of Uttar Pradesh, shot two cheetals *in the close season*. The Birds and Ground game permit, of course, did not entitle him to shoot deer at all. Further, when the Forest Gatekeeper requested the officer to enter the numbers of the two motor vehicles which the officer had with him, he (the Officer) wrote down the number of one vehicle correctly but he put down the number of the second vehicle absolutely illegible. Perhaps this vehicle was being used surreptitiously and its identity had to be hidden.

Inquiries made by the local staff of the division, as well as by the Wild Life Warden, clearly established the officer's guilt. But, as owing perhaps to pressure, or fear, or both, people could not be persuaded to come out openly to give evidence, the D.F.O. could not take legal action. However, he firmly refused to give the officer any more permits.

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Indiscriminate Killing.

On a recent trip by three members of the Society, a group of 'Professional' hunters of animals, snakes etc. was encountered on a National Highway. They belonged to the class of people known in North India as *Sansis* who live by hunting. They are invariably accompanied by a pack of mongrel dogs, which are essential to the chase, and they do their killing, when the quarry is brought to bay, with long spears.

This, particular group of Sansis had in their possession three large porcupines, a very large pangolin or scaly ant-eater and a small monitor lizard or goh, all killed. They were ragged and emaciated and were accompanied by an even more emaciated pack of mongrel dogs, one or two of which were in a pitiable condition, covered with mange and mere skins and bones, due to the fact that they often bled when attacked by porcupines brought to bay in their holes.

They said that they had killed the pangolin for eating and that the lizard was a very poisonous animal. It was explained to them that the pangolin and the goh lizard both were not only harmless but they did a lot of good by eating harmful insects etc. They were also told that the pangolin was a protected animal.

The three conservationists went on their way, depressed at the lack of machinery for enforcement of the ban on killing of 'protected' species, at the spalling ignorance and superstitions of these professional animal-killers and the complete absence of any attempt on the part of the authorities or society to re-habilitate these unfortunate people, who live in hovels in rags and filth, and on the verge of starvation for both themselves and their dogs.

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During the period September 1957 to October 1958, in a certain State of Northern India, the Game Preservation Department started investigations against 110 Government officials for illegal shooting without license in addition to detecting and prosecuting some 114 cases.

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3. Wanton Slaughter

Extract from recent (October 1958) letter in the Statesman.

“During a recent shoot in Madhya Pradesh I noticed that at almost all the water-holes in the jungle, there were two or three hide-outs (*Jhakas*), erected by villagers for shooting deer and other game at night for sale.

Indiscriminate shooting of this sort was brought to the notice of the forest authorities there, but to no effect. Every night we could hear shots ring out. The result is that game is hardly to be seen in the areas. The local inhabitants do not even spare bison. We saw a young bison dead in one of the ravines. The bison is a protected animal.

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4. Conversation Piece

Wild Life Conservationist (meeting stranger, carrying gun over shoulder, walking on the Mall in....., a town in the State of.....)

“Hullo! Is there much to shoot up here?”

Stranger. “Good morning. No—and yes. Everything has been shot out in the main forests. But there are one or two spots—a certain private forest over there, for instance, where the underground is dense, which is stiff with barking-deer.”

W.L.C. “It’s nice to hear that at least. But how has the stuff been shot up? Is it the locals or visitors or what? And what about the forest officials? Can’t they do something about it?”

Stranger. “The forest officials are never seen! Most of the damage was done after partition, when the refugees had no meat. Why, I know some people who even ate monkeys at that time!”

W.L.C. “Good gracious! And what did they shoot with? Surely a 12 bore is not very effective up here?”

Stranger. “Well, we use both. This is a 12-bore but down on my farm in the Bhabar and Terai I use a rifle. Everybody does. It’s the only way to shoot at night.”

W.L.C. (Pretending to be startled) “At night? How, with torches?”

Stranger. "Yes. Mostly from jeeps and even tractors. In fact it is the only way. The animals have been so shot up that they won't come out in the day. You have to go out at night if you want any meat."

W. L. C. (Still pretending to be astonished) "Really! Rather hard on the deer. What? But how do you tell the males from the females? Isn't it rather difficult?"

Stranger. "As a matter of fact you can't tell the difference. You can only see the eyes, and you shoot at them. I do."

W. L. C. (now really horrified) "Good God! What a state of affairs?"

Stranger. "Well, there's no other way if you want meat. Why, the retired....., who has a place right in the area, gets his leg every week! I do know one or two who give the deer a sporting chance, however. They use a .22 rifle. There's one man who has shot everything, from a tiger to a deer, with it."

W. L. C. (now thoroughly agitated) "But what can we do about it?"

Stranger. "The only thing to make some of the worst poachers Honorary Game Wardens."

W. L. C. "Yes. Yes. That's a good idea. If you'll give me some names..... I'm so—and—so. I'll take it up with the authorities."

Stranger. (Immediately freezing) "Oh! I'm afraid I couldn't do that. Well, I turn off here. Good-bye."

W. L. C. "Good-bye! I've enjoyed our talk. You've certainly opened my eyes. Look, may I send you the "Cheetal"? Perhaps you might like to become a member of our Society."

Stranger. (Warily) "O. K. Good-bye."

W. L. C. (Turning away) "Ye Gods!"

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And How They Do it Elsewhere

1. *Abstract from a letter in the New York State Conservationist of June-July, 1958.*

"Deer Friends"

"Every spring a large number of deer congregate on the hill side directly opposite Chenango Forks Central Schools. This herd sometimes numbers over 100 deer. This year the school youngsters even saw an albino deer in the herd."

Our students and the deer are silent friends. Every student is hoping for the deer to pull through the hard winters.

The 6th grade teacher has used the daily assembly of deer as a subject for the youngsters to write poems about. This is the poem by George Sternberg:—

Out of the white floating snow,
Came the swift graceful doe;
With their tails lifted high
Looking for danger far or nigh;
With feet so graceful and swift
Bouncing across each snowy drift.

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2. *Abstract from a note in the New York State Conservationist of June-July, 1958.*

“Wild Life Gangsters”

Three person were arrested for out-of-season killing of two doe deer, in an area where experimental winter-feeding was being carried on in Franklin Country, New York State.

The violators were observed by two students, who reported the incident. They were detected the next day in the act of taking out the hind quarters of the slaughtered animals. On further examination both does were found to have been carrying fawns, one of them twins. After a lengthy trial they were convicted for 9 months, 4 months and 2 months imprisonment respectively.

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3. *Abstract from Kenya Wild Life Society Report for 1957.*

“Poaching in Tanganyika”

An anti-poaching operation was organised by the Park Warden, Western Serengeti Park on the south bank of the Duma River in the area bordering the park. The rivers contain water-pools throughout the dry weather and in November-December, when their calves are one month old, wild beasts and zebra move outside the park's protection and are poached mercilessly.

The party consisted of 3 officers in separate Land-Rovers accompanied by a lorry carrying guards, porters, camp staff, equipment and patrol.

For 5 days, an average of two Land-Rovers a day scoured the country to a depth of 40 miles with the following results:—

- 11 poachers' camps found and destroyed.
- 1,036 steel-wire cable snares found and confiscated.
- 22 bows and 25 quivers found and confiscated.
- 20 miles of new thorn bush found.
- 100 skins found and destroyed.
- 1,100 lbs. of dried meat found and destroyed.
- 100 disused game-pits found.
- Many animals found in the wire snares.

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4. *Excerpts from the New York State Conservationist Oct.-Nov. 1958.*

During the 1957 deer-hunting season just over half a million sportsmen hunted deer in New York State and harvested a total of 72,677 deer from a stock estimated between 3,50,000 and 4,00,000.

As the results of an inadequate harvest in recent years, herds have increased to such an extent as to become out of balance with their grazing and a menace to agriculture. The prospect for the 1958 season were, therefore, good and the last day of the big game season was, as usual, open for shooting deer of *either sex*.

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Education in the protection of nature in Russia begins in the schools, and in organisations of young naturalists, who engage in bird walks and "forest weeks". It is carried further by adult nature-protection societies.

Wholesale killing of game animals is prohibited and likewise shooting from aeroplane, or motor cars, the mass capture of birds and the trapping of defenceless animals, such as moulting water-fowl. Spring shooting is illegal except in the Arctic and Subarctic zones.

Many animals are under special protective regulation since 1946, and several birds are under absolute protection. Steps to restore the population of certain animals have been expanded and intensified since 1925. Important projects have been undertaken to populate interior lakes and river basins with wild ducks and geese.

In Russia today there are 40 important natural "integral reservations", covering 5,775 sq. miles (c.f. India app. 3500 sq. miles) where 'nature enjoys complete and absolute protection'.

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Trigger Control. For every 100 ducks and geese knocked down in the U.S.A. 25 are never recovered. The annual loss is almost 5 million. The principal causes of cripple-loss are trigger-happy shooting, inability to judge distance, poor marksmanship, overestimating the killing range of modern ammunition, poor sportsmanship and failure to retrieve birds.

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Use of the .22 Rifle. In general we do not recommend the use of these calibers (.220 Swift, .222 Kemington, .22 Savage etc). In the hands of a capable marksman or one who chances on an easy shot such rifles can be lethal but an average hunter will do much better using a heavier caliber weapon that has sufficient shocking power to dispatch an animal which is not hit in an immediately vital area.

To Make the Punishment Fit the Crime

The Mikado of Japan, in W. S. Gilbert's immortal opera 'The Mikado' specialised in making 'Each evil liver a running river of harmless merriment'. In the course of his song he relates what he would do to certain offensive members of society. He was, of course, an autocrat, and unrestricted by the infinite obstacles of a democratic state—law-courts, habeas corpus, and courts of appeal. There was no appeal against the Mikado.

Not so very long ago I was shooting in a far North Western State, now no longer part of India. Game, mostly birds, was abundant and I asked the ruler what he did with poachers. 'Shoot them', he replied, 'though I examine the evidence myself, and take care that no injustice is done'.

Something of the Mikado's, or the.....of.....'s methods are really indicated for Northern India, where the most flagrant defiance of the game-laws is committed, not only by the cultivators, nor even by the commercial shooters of meat and skins, but by the highest in the land. The game conservation authorities are, I believe, able to impose certain fines, or, may be, to hand the criminal over to a magistrate for the infliction of a mild term of imprisonment. This is not good enough. They should be empowered to inflict a punishment that really fits the crime.

Here are a few suggestions.

The man who illegally shoots a tiger, either without license, or by illegal methods such as spot-lighting, is easily dealt with. He will be tied up on the ground like a buffalo bait on some well known path of a well known tiger. We do not want the criminal to be killed, only to be brought to a sympathetic understanding of the wrong he has done! If the tiger passes his way it will at any rate be a chastening experience. It may be fatal. We must leave that to Heaven.

Similarly the man who bombs fish may firmly anchored in the middle of a suitable pool from which the fishy inhabitants have all been safely netted out and released elsewhere—we do not want *them* to suffer—and experience the sensation of having a bomb exploded in his near vicinity. He would not be killed—only stunned like the fish, and would probably recover!

The man who breaks the fishing laws, by taking fish without licence, out of season, under size, or more than allowed by the rules of the water, or with a bait that is not allowed on the water, might have a powerful hook attached to some fleshy part of his anatomy and be induced to step into deep water where, on suitably strong tackle, he will be 'played' by a skillful angler until he is almost but not quite drowned!

It is difficult to think of what to do with the 'spotlight night-driver,' but, failing anything more appropriate, he might spend a night in a barbed wire enclosure surrounded by machans occupied by expert shots assisted by men armed with powerful spotlights, which will be directed on him from time to time, and a few shots fired at his legs. We will not, as he does, use buckshot, but only number eights or nines which should be enough to cause him acute discomfort and repent of his evil ways!

I have two suggestions for the breakers of the rules about small game shooting. If his illegal quarry was duck or other water-fowl, a night spent up to his waist and naked in a jheel in the middle of winter should be enough to induce repentance. These jheels, as shikaris know only too well, are the haunt of millions of offensive water insects, not to mention occasionally leeches. If on the other hand, he was after partridges, pheasant or jungle fowl, we shall ask him to step into an enclosure of dense thorn bushes. At one end of this we introduce three or four bloodhounds or police-trained Alsatians. Outside the enclosure we shall post our four or five expert guns with instructions to pepper his legs if he breaks cover. If he doesn't break cover he may deal with the dogs as best he can!

These punishments I feel sure would be effective, but will they ever be sanctioned? I doubt it very much.

Proposed Game Rules.

Readers of the "Cheetal" will recollect that in our first issue we published a set of Revised Game Rules, which the Society has proposed to all States in the Northern Region. As the result of some suggestions from knowledgeable persons, the proposed close Seasons have been modified slightly so as to eliminate the distinction between Plains and Hill Game and to put the goral and snow leopard in their correct places. The revised proposed Close Seasons now read as follows:—

Plains and Hills

Animal.

1. Tigers, leopard and other carnivora (except declared vermin): 1st May to 31st Oct.
2. Wild pigs, nilgai and hares: do
3. All deer and antelopes: do
4. Sloth bear, black bear: do

Note :—There is no Close Season in open, cultivated areas for pig, nilgai and hare.

Birds. Jungle fowl, partridge, quails, pigeon, wood cock, chikor, pheasants
15th March to 15th Oct.

Mountains

Animals.

Red bear, snow leopard, markhor, ibex, serow, tahr, bharal, urial, nayan or Ovis Ammon Hedgsoni, shapa, chiru or Tibetan antelope and goyal or Tibetan gazelle

1st Nov. to 30th April.

Birds. Koklas, chir, monal and tragopan pheasants, snow part-ridge, snowcock or ramchikor, snow pigeon

1st April to 30th Sept.

Note:—Swamp deer, bison, buffalo, hangul or Kashmir stag, and musk deer are to be completely protected.

Non-migratory Water Fowl.

Duck, teal, snipe, purple moor-hen, common coot etc:
Water fowl in Kashmir:

1st June to 30th Sept.

1st May to 30th Sept.

It must be emphasised that the main aim of the proposals is to *rationalise* the close-seasons for the various species, which were previously like a 'jig-saw' puzzle. The age of discriminating sportsman having passed and the tempo of life having speeded up, there is urgent need for *group* close-seasons for species with similar breeding times and wherever possible of *uniform* close-seasons for adjacent States where conditions are more or less the same.

In a word, the close-seasons have been simplified and brought down to six main periods, which can be easily remembered by any sportsman and which will simplify enforcement.

The most difficult close-seasons to fix were those of the mountain species and those proposed are aimed at giving the animals protection during the snow-season, when they are most vulnerable and to provide for the sportsman visiting the mountains one month (October) during which he can shoot both birds and animals.

The close-seasons proposed may not be completely fool-proof and may not completely fit in with the breeding season of every species, but they are close enough to give protection to them. Their main claim is, as said before, simplicity and elimination of the necessity on the part of sportsmen and enforcement personnel to remember complicated and varying dates for different species.

The proposed bag limits are, it is considered, long overdue in view of our depleted stocks of game animals, and birds, while the proposals regarding restrictions on unsporting practices are merely those which sportsmen and protectionists have been crying themselves hoarse over for year.

The response to-date from States to the proposals made has been variable and, on the whole, disappointing, it must be admitted.

The Chief Conservator, Himachal Pradesh has stated that the close-seasons proposed by us are under consideration and that practically all the other recommendations of the Society have been accepted.

The Chief Conservator, Jammu and Kashmir, has informed us that our proposals would be considered at the next meeting of the State Wild Life Board.

The Chief Game Warden of the U.P. has informed us that he is in agreement with most of our suggestions.

Rajasthan has approved of certain close-seasons based on the recommendations of the Bombay Natural History Society and a scrutiny of them reveals that only in the case of jungle-fowl, partridge, quail, grouse etc. does the period coincide with that suggested by us, i.e. 15th March to 15th Oct.

Punjab has a uniform close-season for *all* animals and birds, i.e. 16th March to 30th Sept. which seems too artificial, though no doubt easy of enforcement. Madhya Pradesh has not responded to our communications.

• But we are not disheartened. We realise that it will be a long, uphill task to achieve anything in such matters and that old ways of thinking die hard. We are confident that with the support of our members and of sportsmen all over the country, a set of simplified and rationalised game rules will be put into force.

Honorary Secretary.

A Blot on India's Independence

In pre-independence days wild life in the princely states was strictly protected and was plentiful. True, this was as the result of the feudal powers enjoyed by the rulers of the native states, who preserved their forests more for shooting than for any other reason, but India could then legitimately boast of her wonderful and varied wild-life.

Where Indore's air-strip is to-day once roamed large herds of antelope; outside the environs of Patiala the same picture could be seen, where to-day only their memory remains; in Dholpur there was a sanctuary where animals ate from your hand; the late Maharaja of Gwalior is said to have dispossessed a jagirdar of his lands for having shot a tiger in the royal preserves without permission; the Nawab of Junagadh jealously protected the lions of Gir and was once on the verge of indulging in armed conflict with a princely neighbour for having allegedly shot a lion in his area. Most of the princes had shikar departments which were in reality "wild life protection" departments, since only the ruler and his distinguished guests were permitted to shoot and the forests were jealously protected.

But after the wiping out of the native states and their merging with adjoining states to form single units, the destruction started. The people, in celebration of their freedom from the feudal rule and under the impression that the game laws had ceased to exist, started indiscriminate slaughter of wild life. It is recorded that in the state of Janjira, south of Bombay, where cheetal abounded, the villagers went out and killed two hundred of these beautiful deer and paraded the streets with them in celebration of their Independence Day! South of the Narbada river in Rajpipla State, the black-buck, which could be found in herds and which were very tame as the result of protection, were exterminated in a few years by local villagers, as well as by outsiders, some of whom came from Surat and Baroda in jeeps and cars to fire at and even to run them down. In Tehri Garhwal near Mussoorie, where the Maharaja had been protecting the hill sambhar, which had heads second only to those of northern C.P., the people, in celebration of their 'revolution', went out and shot the lot, also most of the goral.

A contributory factor to the destruction was the attitude of the forest departments of the older "Provinces" into which the native states were merged and of the units created from groups of integrating states. They disbanded the former Game Departments of the native states and relegated game-protection to the secondary position it has always occupied with them, with the result that it rapidly disappeared.

A third, and perhaps the most potent, cause of the destruction of wild life throughout the country after independence was the large scale and indiscriminate issue of crop-protection gun licenses and of sporting arms licenses. Bombay State alone about 60,000 gun licenses

for crop-protection were issued after independence. These guns were inevitably turned on the game and on the meat animals in particular.

To-day, as one moves about the country and contemplates the desolate open spaces and the forests which once teemed with game and hears the stories of the recent, pre-independent past, one is struck with a feeling of something lost, never to be regained ! The curious foot-steps of the tourist and visitor in the ruins of India's ancient cities and temples, are echoed by the solitude of her plains, which are now wild-life deserts. But while the former are a tribute to our ancient past, the latter is a blot on our Independence !

“Contributed”.

Miscellaneous Notes

1. The Effects of Forest Exploitation in Sanctuaries and National Parks.

When the Indian Board of Wild Life was formed in Mysore in December 1952 the question of exploitation in Sanctuaries and National Parks was keenly debated. The few advocates of completely ‘sacrosanct’ sanctuaries and parks—of which the only representative at the time were the Assam sanctuaries, the Periyar Sanctuary of Travancore, the Mysore Sanctuary of Bandipur and the Gir Sanctuary of Saurashtra—could not make their voice felt. The sanctuaries of Uttar Pradesh, where exploitation has been in existence ever since their creation out of ordinary forest blocks, were taken as the model and the definitions of a Sanctuary and a National Park were based on them. As a sop to the protagonists of completely sacrosanct sanctuaries, the concession of an inner sanctuary or “Sanctum Sanctorum”, on the lines of the Bandipur Sanctuary itself (which is a part of the Venugopal Wild Life Park and where no exploitation is permitted) was made. To make the pill more acceptable the name “Abhayarana”, an ancient Indian term for a refuge of wild life, was coined for this.

Not a few of those who took part in the discussions on that momentous occasion, at which an attempt was being made to write a charter for India's wild life, went away deeply disturbed at the surrender to expediency and materialism. To-day, eight years later, it is worthwhile examining the position and seeing how far the fears of the minority have been belied or justified.

It is probably correct to say that the only ‘Sanctuaries’ which offer *undisturbed* viewing and enjoyment of wild animals are those in which no exploitation of forest produce takes place.

Bird sanctuaries like Bharatpur are excluded from the discussion, even though the annual shoots of duck and geese, which are the ex-rulers' prerogative, are claimed to have no disturbance-effect on the water-fowl, which commence their nesting after the return migration of the game-birds. The outstanding examples are the four main Assam sanctuaries, of which the Kaziranga is the chief, the Periyar Sanctuary of Travancore and the Bandipur Sanctuary of Mysore, where animals can be readily seen in comparatively undisturbed conditions. The Gir Sanctuary is another area where exploitation is not permitted but it is placed apart, since here the lion cannot ordinarily be seen unless it is baited with live buffaloes. In the Hailey National Park of Uttar Pradesh, the Madumalai Sanctuary of Madras and the Kanha Sanctuary of Madhya Pradesh exploitation is practised but animals can still be seen, mainly because of the isolated character of the localities or the localised and light nature of the exploitation itself. Most of the other sanctuaries in India to-day have such little wild life, or are so badly disturbed by forest exploitation, that the general public cannot enjoy a visit to them commensurate with the time and trouble taken.

There are still exponents of the view that ordinary forest operations do not disturb the game, but in the light of general experience they must surely concede the point that cheetal feeding on the crown of a felled tree while sawyers work within a short distance (the classical example which is sometimes quoted) is a rare exception. All the indications are that heavy forest exploitation and grazing are such disturbing factors that the animals leave the vicinity and are driven elsewhere, exposing themselves to danger. The human element which accompanies their activities is, moreover, the most potential source of surreptitious killings. The sum total of heavy forest exploitation and grazing must, therefore, be *disturbance*, with its concomitant deprivation of use of feeding grounds, water holes and shelter, which in turn must have an effect on breeding and numbers. The result, from the point of view of public enjoyment (a more important factor than is usually realised, for on public enjoyment of wild life depends public support for wild life) is, of course, disastrous.

Hitherto the authorities have been comparatively indifferent to this aspect of exploitation in sanctuaries, secure in the support accorded in the resolutions of the inaugural meeting of the Indian Board of Wild Life. In fact, an alarming tendency has arisen of seeking to take advantage of the provisions of the original definition of a sanctuary for greater exploitation. The famous Periyar Sanctuary of Kerala is now threatened with truncation of part of its area on the plea that it occupies a disproportionately large slice of the total forest area of that State. In the last few years in Assam fishing has been re-introduced into the Kaziranga Sanctuary and felling of trees for revenue took place in the Monas Sanctuary in 1955-56. The last two are the most glaring examples of the reversal of a long standing policy, dating back to the creation of these sanctuaries more than thirty years ago.

But perhaps the most serious departure from the implied, if not recorded, agreement that exploitation should not *increase* in sanctuaries and parks beyond the bare minimum, has taken place in the Dandeli Sanctuary of North Kanara, which was originally with the Bombay State

and is now with Mysore. This area once abounded with game and was early on the list for the creation of a sanctuary. The forest is of valuable teak which has been under intensive management for the past forty or so years. The area contains some six thousand acres of teak plantations and a few forest villages totalling some 200 souls. The forest department have been attempting to remove these villagers from the sanctuary on the score of their being a threat to the wild life, for they possess a few crop-protection guns. But at the same time an additional and greatly disturbing factor has been introduced by inclusion of the sanctuary area within the lease of the paper-mill recently brought into existence near the site, although abundant bamboo-areas existed outside the 83 square mile sanctuary. To-day lorries and bullock carts ply day and night on the sanctuary roads, extracting bamboos in clouds of dust which choke the visitor and smother the vegetation. Mining leases have been given for mining of ferro-manganese within the sanctuary and the air is periodically rent with thunderous explosions ! The net result is that the animals have practically vanished from the areas under exploitation and the sanctuary, as a place of enjoyment for the public in general has been destroyed.

Wild life conservationists may, with justification, ask how this state of affairs has come about and why the original *status quo*, which consisted of teak exploitation only, was not maintained ? That exploitation is to be minimised is implied in the very definition of a sanctuary, as drafted by the Board of Wild Life. This reads as follows, the words in italics being the significant portion of the definition :—

“The expression ‘Wild Life Sanctuary’ shall denote an area constituted by the competent authority in which killing, hunting, shooting or capturing of any species of bird or animal is prohibited except by and under the control of the highest authority in the department responsible for the management of the sanctuary. The boundaries and character of such a sanctuary will be kept sacrosanct as far as possible. Such sanctuaries should be made accessible to visitors.

While the management of sanctuaries does not involve suspension or restriction of normal forest operations, it would be generally desirable to set apart an area of 1 to about 25 square miles within a sanctuary where such operations may not be carried out, to ensure the nursing up of wild life undisturbed by human activities. Such sacrosanct areas may be declared as ‘Abhayaranya’ i.e., a forest where animals could roam about without fear of man. Such a sanctuary within a sanctuary would also ensure the preservation of plant life unspoiled and undisturbed.”

In the 1953-54 Report of the Wild Life Department of Bombay State it is clearly stated that exploitation in Dandheli Sanctuary will be “*as hitherto*” and at that time there was no bamboo working in the sanctuary. Further mining leases were, moreover, to be given in consultation with the Forest Department.

There thus appears to have occurred a violation of the implied and indicated principles in regard to sanctuaries in the case of Dandheli. Is wild life always to be a back number when planning is done and are our animals and birds never to get 'a place in the sun'? When our sanctuaries are rapidly becoming the only places where animals can be expected to be found in reasonable numbers and where the public can expect to enjoy them in reasonable comfort, must this sort of thing happen? Rather than increase exploitation in our sanctuaries the authorities should be on the look out to *decrease* it, in the interests of wild life. Some amount of sacrifice for wild life is unavoidable and is needed if it is to survive in India and the revenue-goal cannot be too strongly deprecated where sanctuaries are concerned. Where timber-fellings have been going on prior to the formation of a sanctuary it may be conceded that they cannot be stopped, but at least some attempt should be made to *reduce* the incidence of the fellings even at the sacrifice of some revenue.

This can be done by substituting far more intensive systems of forest management, selection fellings on a long felling cycle and with high girth limits and by completing the fellings in one or two years over the whole area of the sanctuary. Such adjustments in the forest management will minimise disturbance to the wild life of the area while assuring the maximum revenue to the forest department. Surely this is the least that the 'junior partner', which is wild life, can expect from the 'senior partner', forest exploitation, for its survival?

—Forester.

2. Farming of Wild Life.

In Africa the suggestion, startling as it may appear to be, has been made to 'farm' wild life, in order to ensure a future for wild animals. By this is meant the harvesting of the legitimate surpluses of wild life for supply to the native people who crave for meat. It is hoped that poaching for meat will be reduced by providing legitimately for the meat-eating habits of the native peoples.

This suggestion is on the face of it, not as far fetched as is likely to appear. There is no doubt that very large numbers of animals are being snared, pitted, poisoned and otherwise destroyed in the quest for meat which is the average African's diet. And there is also no doubt that without the co-operation of the native African there can never be achieved complete elimination of poaching. The scheme, it is hoped, "will enable the African to see for himself that the planned and carefully culling of a limited number of animals each year is more to his advantage than the massive slaughter and consequent wastage of illegal poaching", to quote from the 1957 (Second) Annual Report of the Kenya Wild Life Society. If the scheme is introduced it will be worth observing and interesting to see the results.

Such schemes are only of academic interest to us in India, for the simple reason that our wild life is far less plentiful in the country as a whole as compared to Africa. Moreover, over large stretches of the country the population is vegetarian in diet by habit, unlike in Africa.

However, such 'farming' of wild life would, perhaps, be possible in the tribal areas of India. Many of the tribal peoples have been, in the past, largely dependent on the meat of game animals and birds and in the course of time such tribal groups have largely denuded their environment of game species. In India there appear to be no taboos on the killing of animals and birds, as in some other parts of the world where primitive races exist on a predominantly hunting-economy. In the semi-religious *battues* conducted annually by the Gonds of Madhya Pradesh and the Hos and Santhals of Bihar, everything is killed irrespective of sex or size.

In plans for rehabilitation of these tribal groups and bringing them forward to take their place with the other more advanced peoples of India, it should be possible to attempt to ensure the continuance of their tribal hunting, to a limited extent and on a strictly economic basis. Implanting of species which can be used as food by such tribal people is also distinct possibility. In this context 'farming of wild life' may have a place in India.

3. The Future of Water-Fowl in India.

The future of water-fowl (duck, geese etc.) which migrate to India every winter from Siberia, is an intriguing question from more than one aspect. Firstly, there is the question of the drainage and reclamation of large areas of swamps in Russia for various purposes and secondly there is the possibility that the Russian atomic and hydrogen bomb experiments which are conducted in Siberia are likely to have a long-term genetical effect on the water-fowl which breed in these areas.

In India there have been conflicting reports regarding the quantity of water-fowl which are seen each winter. In the 1955-56 season, a sportsman writing in the Bombay Natural History Society Journal of April 1956, reported that, though at first sight, the water-fowl appeared to be unexpectedly scarce, on closer investigation they were found to be present in enormous numbers, although they had noticeably changed their haunts, in some cases leaving favourite jheels unfrequented. The writer attributed this partly to over-shooting and harassment and partly to enormous areas being under water as the result of the heavy rains. The abnormal distribution was, he thought also due to the fact that permanent jheels were deeper than usual, thus discouraging the type of duck-weed required for surface feeders. As against this a reliable observer from Kashmir, who has long been associated with the wild life in that state, has stated that the water-fowl of Kashmir have markedly decreased in recent years. He, however, does not attribute any particular reason for this state of affairs.

From Africa comes an interesting note culled from the 1957 report of the Kenya Wild Life Society. In the 1957-58 duck shooting season, the number of migrant northern ducks was the highest observed since the war while resident ducks and geese continue to show a decline in numbers, the decrease being particularly noticeable in surface-feeding ducks. The writer was of the opinion that the only way to achieve greater numbers of duck for the sportsman is the creation of adequate water-fowl sanctuaries.

In this respect, India's attempts at increasing the available irrigation facilities, both in the form of small tanks in the main peninsular India as well as the larger river valley development projects of the mountain areas, would indicate an increase of conditions favourable for the local resident water-fowl. While this is true of projects of the former category, the larger catchment areas being created in the mountainous tracts of India are likely to prove disappointing as 'reservoirs' for the propagation of resident water-fowl unless active steps to that end are taken.

The Periyar Lake in the Western Ghats of Kerala, for instance, which has been in existence for a number of years, has so far not attracted water-fowl. The fluctuating levels of the water margins of the lake which do not provide conditions suitable for the growth of the water-weeds which serve as food for ducks is responsible for this and unless steps are taken to create *stable* water-level conditions by small wiers in the bays and arms of the lake, conditions will continue to remain unfavourable. On the other hand the Durgapur barrage, in the plains of Bengal, has been reported to be increasingly attractive to water-fowl. To quote from a recent paper on the utilisation of catchment areas in India :

"Properly managed expanses of shallow-water provide the best and most productive habitat for water-fowl. It follows, therefore, that only the more shallow inlets and bays in a mountain lake can be utilised for the purpose. In the deeper bays, suitable water-level regulating structures will require to be installed if wild-fowl habitat is to be created. The object should be to create 'marshes' in which vegetation of the suitable type can flourish and where even wild rice can be grown. This, as mentioned previously, can be achieved by the construction of small dykes and dams across the mouths of inlets, which will in course of time bring about siltation and shallowing of the sites. Even after this is done intensive cultivation of the plant-life that is required will sometimes be necessary. The addition of suitable quantities of elements in the form of soluble salts to the water will ensure the necessary balance of food-material for healthy plant growth. Wet-rice may require five times the amount of iron required by a dry cereal but excessive iron is very harmful to marsh-crops."

As regards the much larger question of the genetical threat to water-fowl exposed to radiation effects, with the consequent threat to human beings whose food they constitute,

this is a matter which deserves to be investigated more closely. A couple of years ago, there was a report from Kashmir that water-fowl in the lakes of that State had revealed the effects of radiation exposure, but nothing further has been heard in this connection. Will there come a time when India's migrant water-fowl, which breed in the marshes of Siberia that are now undoubtedly being exposed to radioactive contamination of a high order, will pose a grave threat to the sportsmen and water-fowlers of India ?

Effect of Pesticides on Wild Life :

The F.A.O's European Commission for Agriculture, has three sub-commissions, one of which is devoted to agricultural research. During the last meeting of this sub-committee in May, 1958 efforts were concentrated on the effects of pesticides on soil, crop quality, and on man and animals. The principal concern of the sub-committee was the repercussions of chemical products on bees and other pollinating insects. The production of food crops on a larger and larger scale involves the use of pesticides and it is encouraging to note that the F.A.O. is collecting the national legislation of various countries concerning the manufacture, marketing and use of pesticides, and is working on the establishment of a scale of maximum tolerated pesticide residues.

The National Audubon Society of the United States has made an urgent appeal to the Department of Agriculture concerning the use of toxic chemicals for pest control, which constitutes danger to man and wild life. Tests conducted by the U.S. Fish and Wild Life Service reveal that after exposure to insecticides in their parents' diet, birds invariably become incapable of reproduction in the second generation. Large scale methods employed in getting rid of species such as the fire-ant, (which was brought to the States from South America in 1918-1920) and the methods used against the simulies (a species of mosquitoes responsible for infection which results in blindness), indicate the harmful effects of the pesticides to animal life, wild fowl and fish. The proposal to use Dieldrine, which is far more toxic than DDT, is alarming.

In Alabama, the results of the experimental heptachlore treatment over 45,000 acres were staggering, the bodies of 6 rabbits, 3 quails, and 48 song birds being counted over a sample area of 100 acres.

The 14th International Congress of Crop protection, while being unanimous that the protection of plants is indispensable for assuring adequate food supply for the world's people, recognised that effective steps should be taken to prevent injurious effects on health. This danger is particularly present in the case of pesticidal residues. Government are urged to encourage, by every means, investigation in this connection.



Points for a Model Talk on Wild Life

Ignorance of the wild life situation in India is wide-spread and profound. In any campaign for the saving of India's wild life there is a great necessity for propaganda and publicity.

Lectures and talks on wild life form part of this publicity but in order to achieve the maximum effect the wild life talk must be well planned, logically constructed and lucidly explained. Above all, it must be backed up by examples.

In the course of talking on wild life for the past few years the following points on wild life have been built up and have been found suitable for audiences ranging from the high school stage upwards. It is hoped that wild life enthusiasts will find them useful in propagating the conservation of wild life in India.

P. D. Stracey.

I. WILD LIFE MANAGEMENT, GENERAL.

(a) Terminology:

"Wild Life" instead of "Game"—the change removes the psychological implication of the "chase" ending in killing or capturing.

(b) Interpretation:

Only animals (including birds and fish, reptiles and insects), OR animals and vegetation?

In some cases by narrower interpretation has come to imply mainly *mammals*.

Note.—The Indian Board of Wild Life excludes fish, insects and vegetation.

(c) Basis:

"Ecological"—meaning the relationship of the species to its environment;

Utilising the biological features inherent in a species.

(d) Concepts:

(i) *European concept*. Conservation of vanishing species in Government (public) or private sanctuaries and forests;

Game-protection for sport on large private estates.

(ii) *American concept*. Multiple use of land, whether public or privately owned, by production of wild life along with trees and crops;

Renewable exploitable crop of deer, rabbits, game-birds etc., to serve a large and growing 'hunting' industry.

- (iii) *African concept*: 'Clearance' from areas for growing of commercial crops of tea, sisal etc. mainly by white settlers;
Protection of farms of white settlers and natives;
Conservation of species, mainly in sanctuaries, parks and reserves.
- (iv) *Indian concept*: Conservation of species in general and in sanctuaries and parks in particular;
Control of species injurious to crops and live-stock.

(e) Analogy between the African and Indian concepts and conditions :

- (i) Indian has passed through the period of colonial expansion while Africa has not. There are many more guns and rifles in India than in Africa;
- (ii) India's population is partly vegetarian whereas Africa's is mainly meat-eating and large sections depend on hunting for their meat;
- (iii) India's economy is more 'cereal-production' based than is Africa's, which is more farming and pastoral;
- (iv) India's wild life is much less in numbers than Africa's though more varied in type and species.

(f) Analogy between American and Indian concepts and conditions :

America largely destroyed her few native species of game birds and animals. About fifty years ago protection commenced and then active conservation and propagation of wild life as a crop, in accordance with the principle of multiple use of land.

Since that time America has successfully implanted many species of game birds from other parts of the world for her enormous hunting 'industry' (14 million hunters spending 20 million dollars per annum). Similar action has been taken in regard to fish. •

In India, many game-species, along with their habitats, have been almost completely destroyed. It should be possible to restore some of these species and their habitats and even to implant certain foreign species in suitable areas in India after research.

(g) Conclusion:

"Wherever wild life is found, the 'balance of nature' is doomed to be a man-influenced balance and the ecology of any organism will be more and more a 'man-made' ecology".

—Prof. Pearsall.

II. WILD LIFE MANAGEMENT IN INDIA.

(a) The Problem:

Peculiar to India's conditions of increasing population and expansion of agriculture; a two-pronged and apparently contradictory problem of:

Conservation of species in general and protection in Sanctuaries and National Parks in particular.

Control of species which do damage to man, crops, farms, and livestock.

(b) Mythological :

Many associations of wild life with Hindu religion and religious beliefs.

(c) Historical:

- (i) *Ashoka* was the first to specifically protect wild life by law; his 5th pillar edicts to protect wild life in the 3rd Century B.C.
- (ii) *Moghul* period of the chase-cum-protection; Moghuls were great hunters but also great protectors of wild life.
- (iii) *British* period of creation of Reserved Forests, laws such as Indian Forest Act and Wild Birds and Animals Protection Act and Shooting Rules; also of weapons suitable for destruction—first the smooth-bore, then the rifled weapon; 'high velocity' weapons followed black-powder and 'express' weapons.
- (iv) *Indian*: War, post-war and independence periods;
Great increase in fire-arms and new type of 'sportsman';
Clearance of jungles for growing more food;
Lack of respect for law and order;
Pre-occupation of forest and civil department with 'development works' resulting in neglect of protection of wild life.

(d) The Wild Life Conservation Movement in India :

First efforts by Bombay Natural History Society resulted in Wild Birds and Animals Protection Act of 1897;

The 1935 movement: Punjab gave the lead with a separate Game Warden, Fauna Committees in Districts etc.;

Pre-war: Government of India's Conference in Delhi in 1935; Wild Life Convention to be signed by all States;

Formation of Hailey National Park in U.P.;

Jim Corbett and Hasan Abid Jaffry's Association for the preservation of wild life in U.P.;

Planters' shooting and fishing clubs in Bengal and South India;

The war : Destruction of wild life by the armies stationed in India;

Post-war : the 1951 conference in Delhi, decision to give wild life a place in India's New National Forest Policy of 1951.

Post-independence : the Indian Board of Wild Life (1951), a Government appointed board for advisory purposes;

The Wild Life Preservation Society of Northern India (1958), for publicity and propaganda and as a 'watch-dog' on behalf of wild life.

III. CONSERVATION OF WILD LIFE IN INDIA.

(a) Status and location of India's wild life:

In non-reserves, reserved forests, sanctuaries, national parks.

Definitions :

A *Sanctuary* is "an area where killing or capturing of any species of bird or animal is prohibited except under the orders of the competent authority and whose boundaries and character should be sacrosanct as far as possible" (Indian Board of Wild Life).

A *Sanctuary* is the whole or portion of a reserved or protected forest and is declared by Government.

A *National Park* is "an area dedicated by statute for all time to conserve scenery, natural and historical objects of national significance and wild life, and where provision is made for the enjoyment of the same by the public" (Indian Board of Wild Life).

A *National Park* is created by the Legislature and can be abrogated or modified only by the Legislature of the State concerned.

(b) Agencies :

1. Government :

(i) *Laws* : Indian Forest Act, Wild Birds and Animals Protection Act, and Rules made under the acts;

Arms Act; special acts like Elephant and Rhino Preservation Act, Sea Customs Act.

(ii) *Enforcement of the Laws and Rules* : Civil and Police Departments;

Forest Department;

Special staffs (Game Departments.)

(iii) *Rules* under the acts embrace:

close seasons
 prohibited sexes
 protected species
 bag limits
 warrantable Heads
 permissible sizes
 export control (under Sea Customs Act)

(iv) *Measures* of an executive nature:

Crop protection guns: control of use and withdrawal where necessary;
 buck-shot: banning or control of issue on licenses;
 rewards: adequate and timely, for information and assistance;
 liaison: between forest and civil departments;
 netting: control of sale of game-birds and meat;
 rare-species: list and description to be known;
 vermin: list and description to be known;
 magistracy and police: sympathy and assistance.

2. *Semi-Government:*

- (i) *Indian Board of Wild Life:* The Board was formed in 1951 at Mysore and was created by the Government of India.

It consists of a Chairman (Maharaja of Mysore), two Vice-Chairmen (Maharajkumar Dharma Kumar Singh of Bhavnagar and the Inspector General of Forests) a Secretary-General (the Director, Zoological Survey of India, Calcutta), a Secretary (an under Secretary in the Ministry of Agriculture), four Regional Secretaries (for the Western, Eastern, Southern and Northern regions), the Chief Conservators of Forests of States in India, the Delhi Bird Watching Society, Wild Life Club of the Forest Research Institute and Colleges, Dehra Dun etc.

The Board meets once in two years. Its function is to advise the Govt. of India on the conservation and control of wild life in India and the Government of India in turn advises the States.

The Executive Committee of the board which conducts the affairs of the board meets once in six months, by rotation in some Sanctuary or National Park in India.

The Board has a Bird Wing and a Zoo Wing.

3. Private :

Societies and Clubs : In the past private organisations have been formed by tea and coffee planters in certain parts of India to lease from Govt. the shooting and fishing rights in the areas and distribute the same among their members. This has ensured good control over shikaries and poachers.

Societies have also been formed (in the U.P. and in the Punjab notably) to preserve the wild life in the past. These have generally not lasted long.

In 1958 the Wild Life Preservation Society of Northern India was formed at Dehra Dun.

4. Public:

Attitude and actions will largely determine the future status of wild life.

"Wild Life is a legacy to be handed over to successive generations"—King George V.

IV. SPORTSMAN'S CODE: DO'S AND DONT'S OF SHIKAR.

(a) Methods :

"the way one does it" is what matters, and "how *not* to do it" should be the title of a shikar talk, rather than "how to do it";

always do the correct thing, based on experience and codes of behaviour;

do not copy or emulate others' bad acts;

always be prepared to take legitimate risks and responsibility for your acts;

practice in handling a gun, shooting on wing etc., and always shoot at birds on wing;

do not overdo 'shooting for the pot' or kill excessively;

use correct and suitable ammunition (a question of skill and personal experience);

(b) Shooting and Fishing.

stalking, driving or beating, machan shooting;

beating for meat-animals is to be discouraged;

hold your fire and place your bullet;

use adequate weapons and ammunition;

always do your own 'following up' of wounded game;

always use what you kill;

always report offences;

always co-operate with authority;

do not allow your camp-followers to shoot with your weapon;

use correct gear and 'sporting' tackle;

do not use small-mesh nets;

take only 'permissible' fish (of minimum size prescribed).

(c) The rules:

close seasons (shooting or trapping prohibited when animals are mating);

prohibited sexes (sometimes the female of the species is not to be shot);

protected species (which are low in number are given protection, temporarily or permanently);

game returns (reports of game shot under a license);

warrantable heads (minimum sizes of antlers and horns that may be shot);

bag limits (limits of game that may be shot by one license).

(d) Unsporting practices:

shooting from vehicles or from cover of vehicles;

shooting over water-holes and over salt-licks;

shooting with artificial light from vehicles at night;

using buck-shot which wounds rather than kills;

using detonators in rivers or poison in rivers to secure fish.

V. CONTROL.

(a) Why control ?

control is necessary when damage to crops and live stock becomes excessive;

ordinary damage does not justify control measures;

not possible to completely segregate wild life from crops and live-stock.

(b) How to control ?

control by the public: right of defence of property;

control by Government: declaration and offer of rewards, special licenses etc.

control by direct Governmental means and trained game wardens;

consulting the local forest official before enforcing control.

(c) Biological control.

by natural predation of one species on another;

by preserving the 'balance of nature'; by which is meant letting the species naturally re-act on each other.

(d) Artificial control.

by physical means (killing or capture);

by introducing diseases among species.

(e) Crop-raiders, livestock predators, vermin:

need to carefully assess damage potential and pattern before resorting to control;

vermin-lists to be periodically reviewed so that species which are no longer dangerous can be removed from the vermin lists.

(f) Man-killers and man-eaters:

man-killing may be accidental, provoked or deliberate;

man-eating may be inherited or acquired;

causes of man-eating are old age, injuries which incapacitate, need to feed young ones etc.;

need to identify the culprit and not adopt drastic measures which may destroy innocent animals.

VI. FORESTRY AND WILD LIFE MANAGEMENT:

the forester is the main custodian of wild life in India;

improvement of a forest as a game-habitat is the most important tool in successful wild life management;

forests need wild life though not to the extent that wild life needs forests;

multiple-use of a forest, to produce both timber and wild life, is necessary;

good-silviculture is good wild life management;

mixed forests and mixtures of young and old age classes produce maximum wild life, ("edge effect");

conservation of soil means conservation of vegetation, which in turn means conservation of wild life;

suitable cover (shelter) and food is essential for abundance of wild life.

Letters to the Editor

(1)

Small Game Shooting in the Dun compared to Bengal and Assam

To,
The Editor,
The "Cheetal"

Dear Sir,

Although I have been a resident of the Dun for nearly three years, it is only recently (1958 cold weather) that I have done any shooting in this district and this has been confined to jungle-fowl only. Readers of the "Cheetal" may be interested, therefore, in my opinion of conditions regarding small game shooting in this part of India as compared to those of the Bengal Dooars and Assam in the sub-Himalayan tracts. I spent most of a long career in tea in the Darjeeling and Dooars districts and did most of my shooting in the Bengal Dooars, as well as a fair amount in Assam.

The first thing that has struck me has been the comparatively small size of the jungle-fowl in the Dun as compared to those in Bengal and Assam. The shooting seasons are practically the same in the two areas, i.e. October to end of February, though in the Bengal Dooars the jungle-fowl is open up to the 15th March, whereas in the Saharanpur division jungle-fowl can be shot up to the 31st March.

The reason for this marked difference of size in birds is not clear, but the general paucity of rice crops near the Dehra Dun forests during the close season, as compared to Bengal and Assam where rice is the main crop, may have something to do with it. The crop contents of some of the birds shot, have been examined and the vegetable matter has been found to consist mainly of seeds of forest species and grasses, the rest of crop-contents being made up of small snails, ants, spiders, larvae etc. Of course, the time of the year when these birds were shot (January-February) is the period when there is no rice crop, or for that matter no cereal crops except mustard, on the ground in the locality. Could it be possible that the Dehra Dun bird reaches its full size later in the year (provided, of course, it does not fall to a gun in the meantime) or is it that this year the proportion of young birds to older birds is higher, indicating an unusually good breeding season? And does this indicate the need for a later shooting season, i.e. from 1st November instead of 1st October?

The shooting conditions in the Dun, generally speaking, are more difficult than in the Bengal and Assam Dooars, because most of the jungle-fowl shooting here is done in tree and scrub forest, as compared to the latter areas where one gets much more open country around

paddy fields. The bags per gun, for up to 7 or 8 guns, were 4 to 6 birds which compare unfavourably with the bags in Bengal and Assam. This again may have something to do with the more open conditions in the latter areas which favour good shooting.

A few remarks about the system of shooting in the respective areas may not be out of place here. The system in the U.P. as regards small-game shooting, is that the small game sportsman can shoot in the first half of the month in any block, but in the second half of the month only the block-holder or his guests can shoot small game, in addition to big game. This would appear to give the blocks no rest from small game shooting as such. The conditions, so far as Class II areas in Assam and in the Bengal Dooars is concerned, are the same in that jungle-fowl may be shot continuously from October to March, but the Assam system of differentiating between Class II shooting (which adjoins the cultivation areas and where any permit holder paying Rs. 20/- can shoot jungle-fowl and other small game as well as tigers free of royalty) and Class I shooting areas (which are better stocked forests and organised into shooting blocks that can be reserved for periods of 15 days at a time, the fees being on a sliding-scale according to the number of guns) has certain advantages, in my opinion, over the system in the U.P. Here the *whole* forest is divided up into shooting blocks and no attempt is made to distinguish between good shooting and poor shooting areas (although in actual practice the poorer blocks are seldom taken up, which means that the good blocks get no rest when compared to the poorer areas). In Assam the poorer areas, i.e. Class I, which are near the crops which can hold only jungle-fowl, pig, cattle-lifting tigers and leopards and a few deer, are open to any Class II permit holder, who naturally does not expect much for the small fees that he pays. The better Class I shooting blocks being in the interior cost more for reservation and royalties are levied on animals shot, except 4 small deer free for the pot. The Assam system offers certain definite advantages for the sportsman over the U.P. system and could with benefit be followed, I feel. For instance, Class I blocks could be arranged in a circle around sanctuaries, or where the sanctuary is linear, like the Rajaji Sanctuary or the Corbett National Park, along the boundary of the sanctuary, the Class II areas being relegated to the edges of the cultivation further away. This would appear to be a rational arrangement and one which would satisfy both the small-game sportsman, who wants only a day with jungle-fowl and the big-game sportsman who wishes to camp in a block and tie up for tiger etc.

Yours faithfully,
B. Mitchell

Arcadia Tea Estate, Dehra Dun.

Dated 3-3-59.

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(2)

The use of buckshot for medium and big game.

To,
The Editor,
The 'Cheetal'.

Dear Sir,

In my opinion the great drawbacks of shooting with buck shot are the following, and I think sale of anything above No. I should be prohibited :--

1. Buckshot contrary to what some people think, is more dangerous than a rifle in the case of ricochets, because a bullet from a high power rifle breaks up on hitting the ground or even a branch, while buckshot ricochets in every direction and is likely to hit any one lethally within 80 yards or so after hitting the ground.

2. Some people think that buckshot can kill an animal more easily than a bullet. This is entirely wrong. Buckshot kills only if the brain or heart is penetrated; otherwise it just maims the animal, which goes away wounded, dies a horrible death, and the shikari does not get him. The shikari, if a sportsman, feels himself whipped at both ends, first by losing his quarry and then by the remorse of wounding and the wasting of the life of a poor sporting animal.

3. If the animal is more than 20 yards or so, the chances of merely wounding him are cent per cent, the shot having scattered and only one or two pellets hitting the animal, on a leg, a horn or the stomach etc. etc. For a sportsman the pleasure of bagging an animal with buckshot is about as much as buying meat from the bazar.

A friend of mine had Thano block for the second half of February 1959. I was a second gun on his permit. He had permission to shoot one chital stag with hard horns and of a certain size. He asked me to shoot one, and I wanted to shoot a wild boar of a reasonable size for myself.

I went to the block in the morning and had some beats. I saw several animals and was distressed to find that most of them seemed maimed or wounded, the results of buckshot fired at them by other shikaris, probably in *murghi* beats, when some people keep shot for *murghi* in one barrel and slugs in the other. They blaze off at any animal with slugs and wound it more often than not.

4. Then came out in one beat pigs of small size, two of which could hardly walk. I let them go. A chital doe with fawn also seemed to be ill. Finally one big stag with hard horns appeared and I shot it with my 30.06 rifle using a 180 grs. soft point bullet. I had now shot what my friend wanted and set out to shoot the wild boar I wanted to shoot. One came out with the front leg broken, (again buckshot) so I let him go, because I thought he must

be ill, with fever and of no use for the table. Finally in the last beat I shot with the same rifle a big boar, who ran rather slow, apparently unwell.

On bringing the animals home, and cutting them up, it was found that the pig had one S.G. pellet behind the neck, two in his left hind leg and one in the back—all suppurating wounds. I thought this was about all, but to my distress and surprise when the stag was skinned, three pellets were found in him. Has every animal got slugs in it?

If buckshot is not banned wild life can, under the circumstances, hardly be preserved.

Mann's Lodge,

17, Chander Road, Dehra Dun, U.P.

Gurkirat Mann.

5th March, 1959.

Editor's note:—

We have, in our proposals, which are in Government's hands suggested the banning of the sale of buckshot. If this proposal is accepted and enforced we may have only touched the fringe of the problem, because these same offenders may continue shooting big animals with the smaller sizes.

In our opinion there is only one situation in which a shikari is entitled to use buckshot: the following up of a wounded panther in very thick jungle, when a very quick shot at very close range is required, and a single rifle shot may well go astray. But if slugs are not available the shikari will still be able to despatch the animal even with a No. 4, since the range would probably be under five yards.

The sad story related by Mr. Mann suggests that small-game shooting permits of the monthly type are being used for shooting big or medium game, which we have always suspected.

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(3)

Preservation of Wild Life

To,
The Editor,
The 'Cheetal'

Dear Sir,

1. *Damage to wild life by use of nets, traps and snares* (also explosives for killing the pigs) is enormous. Possession of traps etc. should be declared an offence and very strict action taken against the use of explosives.

2. *The young of pigs and of bucks are nearly exterminated by the use of village dogs.* People indulging in this activity are found in almost all the villages, especially after the rains, as the

foot prints make it easy to locate the animals' resting places. Certain tribes, like the Kanjars, who move from place to place with donkeys and dogs are largely responsible for this kind of slaughter.

3. *Control over fire-arms licences issued for crop protection.* This is urgently needed as the weapons are very widely misused for killing game, pigs, buck and blue bull and selling the meat. When game is decreasing so fast there can be hardly much damage to crops by the remaining few animals. Those licences should be withdrawn. In case any damage to crops is reported to the authorities from any district, the local sportsmen can be approached through the Shikar Clubs to ease out the situation. But I wonder if there is any genuine complaint of this nature, when you hardly see any game.

4. *The Game staff in the Punjab districts is hardly enough and they have no means of transport.* The authorities should impress upon the game staff to launch genuine prosecutions rather than work on hearsay information and make up the number of required prosecutions by roping in innocent people. This is actually being done.

5. *Damage by the use of tractors for shikar* is enormous in this district and there is hardly any one to check this unsporting method of shikar.

6. *Bonafide, genuine and reliable sportsmen should be delegated powers* by the District Magistrates to check and report contravention of game laws.

7. *The recent amended law (The Wild Life Preservation Bill, 1958) regarding close season and other matters has not been well scrutinised.* These things should be done in consultation with the recognised sportsmen, who can give valuable help in perfecting the game laws.

8. *Strict action including confiscation of arms etc.* should be taken against defaulters shooting in close season.

9. *Publicity of game laws through the Revenue agency and Panchayats in villages is essential.* They should be encouraged to report contravention of game laws for necessary action, to higher authorities.

In case I can be of further assistance in your campaign for saving wild life I shall be very glad to render such help as I can.

M. M. Rai,
Advocate, Ludhiana.

Young People's Corner

Pets

Many people keep wild animals as pets and deer rank high in the list of such wild animal pets. Very often forest workers and shikaries bring in small deer which have been separated from their parents, and before one can weigh up the pros and cons adequately they become pets of a family. If such baby deer survive the infancy period and the attendant bowel complaints which result from lack of mother's milk and strange diet, the animals when they become adults invariably prove to be a liability. The same is to be said to be an even greater extent of infant carnivora such as tigers and leopards, as also other animals like bear-cubs.

All wild animals are very attractive when they are young but their adolescent period passes very soon and in the adult stage many of them can be dangerous.

Some interesting stories in this connection are worth relating. In the Bijnor District of U.P., a Muslim gentleman had a male cheetal as a family pet, and eventually it grew to full stature. It was kept loose in the back courtyard of the house. On a certain rainy night the house-holder awakened and opening the door of his house, went into the court-yard to answer the call of nature. In the dark and rain he slipped and fell and the stag, probably mistaking him for an enemy, promptly attacked him and gored him to death !

The New York State conservationist for April-May, 1958 contains an interesting story of how a tame stag similarly attacked an American farmer during the rutting season, inspite of the latter being armed with a pitch-fork. The buck knocked the pitch-fork aside and carried the farmer 14' backward on its antlers against the side of a shed. The farmer's son, who was 6' tall and weighed 200 pounds, grabbed its antlers and tried to pull it off, but in vain. The boy had a hammer in his hands and he beat the deer repeatedly on its head and face but failed to drive it off the fallen man. Finally he struck it as hard as he could on one of its eye-balls, which made the animal jump back. The farmer escaped with terrible bruises but no serious injuries and the deer with severe headcuts and the loss of its right eye.

An incident which might have ended fatally for me occurred when I was transferring a family of tame cheetal deer from their home in Dehra Dun town to the Forest Research Institute, last summer. We were completing the enclosure in which the animals had already been released and a number of us had gone into the enclosure to move the water-trough. The male cheetal, Bambi, which had been lying peacefully a few feet away from the trough

got up when we approached to lift it and immediately attacked me. I grabbed his antlers and we started a wrestling match. I was able to put a small tree between him and me, otherwise I might have been knocked down. Another person came to my rescue and holding on to his antlers we gradually backed to the gate and slipped out—I none the worse for the encounter except for some bruises on my arms and body.

We occasionally read of persons who go about with tame leopards and tigers at the end of chains in public places. This should on no account be allowed, both in the interest of human beings as well as of the wild-animal pet itself. For no wild animal can be so completely tamed as to be hundred percent reliable. There was a tea-planter in Assam who kept a leopard like this until it grew quite big. One day it was found to have killed a goat, which it took into the roof of the club! Needless to say its days of freedom were numbered and it had to be put behind the bars, much to the planter's unhappiness.

Sally was a little leopard cub which came into my possession in the early years of my service. She was very lovable and used to place her head in the palm of my hand as if going to sleep, all the while purring like two cats! When I marched with my elephants Sally, at the end of a chain tied to the pad-rope, would wander all over the pad, and on to the elephant's head and even down his forehead. Steady old Mohan Prasad would merely turn the tip of his trunk upwards and sniff at her! We must have looked a queer trio on the elephant's back—my airedale dog 'Butcha', Sally and I. One day when I had left the two together and gone to the Club, I came back to discover a big wound in the dog's back—only Sally could have made it! When she began to tear up cushions and curtain ends I decided to give her away. I got her a home in a circus, and it was a great wrench parting with her. I resolved never to keep another wild animal pet, and I never did.

It is, therefore, advisable and whenever possible, to leave the young of wild animals in the forest where they belong. If left in the same place as soon as possible, the mother will come back to it. In most cases the temporary separation from the mother, which is invariably the cause of the capture, will be terminated as soon as the forest reverts to its undisturbed state. It is also pointed out that it is against the game laws to bring out wild animals from forests.

P.D.S.

INDIRA BHAI

14 Years—Class XI (S.C.),
St. Thomas' High School,
Dehra Dun.
10-9-1958.**“How We Can Preserve Our Wild Life”**

(Winning Essay)

To the average European, the very mention of the word, ‘India’ conjures up visions of tiger shoots and safaris, dense jungles swarming with an assortment of animal and wild life—a veritable heaven for wild life. This might have been the case about fifty years ago, but now, the numbers of our wild life have decreased so rapidly that soon India will have not a vestige of her former glorious heritage.

By wild life, I mean not only the tiger, lion and elephant, but also other animals such as deer, wild pigs, rhinoceros, Himalayan bears and birds like the pheasant, jungle fowl and partridge. These are dying out, chiefly through the ravages of man. He indulges in indiscriminate killing, which amounts almost to slaughter, with little regard for species, sex or age, in fact with little in mind but his own gain. Were the Taj Mahal to be allowed to fall into decay, every citizen would be up in arms with indignation. Yet people allow the fauna of this country to be ruthlessly set upon without so much as a word of protest, not realising that the natural animal life, and not monuments of brick and stone, are its proudest heritage.

Now when so many of our most beautiful and singularly rare animals are faced with total extinction, people are realising that it is high time to do something about it. The general public, however, is totally indifferent to what goes on in the forests of India, as long as their cloistered life in the city is not interfered with. This indifference must be overcome. It is only when the whole population is on the alert, that this crisis can be averted. Speeches and pleas for the preservation of our wild life should be made on the radio and a series of documentary films should be issued to propagate Government schemes on the subject. Most important of all, the rural population of India should be informed of the crying need for their co-operation with the Government. It is chiefly the villagers and farmers living on the outskirts of forests who regularly kill game, and slowly but surely deplete the forest of their wild life. This should not be a mere flash in the pan, but, a well-organised nation-wide campaign. Only then will it have effect.

The Government can also enforce stricter rules concerning the shooting of game. Shooting licences should not be issued so freely and every licenced shikari should place a definite limit on the number of animals he shoots. The females of animals should on no

account be killed, and shooting should be strictly prohibited during the breeding season. Shooting by the artificial light should be banned as lights dazzle forest animals to immobility and expose them to an unfair disadvantage. Motor cars, jeeps or station-wagons should not be used as cover for shooting, because these too place the quarry at a disadvantage. It is no use making rules and laws unless there is some power to enforce them. Severe punishments and the withdrawal of game licences should be meted out to all offenders.

Poachers are also a serious menace to the preservation of our wild life. They are usually out for their own gain and cunningly set traps and take post-shots at animals in the dark. The elimination of poaching should be in the hands of the forest guards, who should be many in number. At one time at Khandla, near Bombay, there was only one forest guard to keep watch on 6,000 acres of forest land—a humanly impossible task.

With the rapid growth of population and increased housing space and food requirements, more and more forests are being cut down to give way to man. This leaves the animals without protection, hunted and homeless, unable to fend for themselves. People will say, and rightly too, that food and crop cultivation come before the preservation of wild life, but cannot farmers come to some compromise and ensure the safety and continued existence of the forest animals whose natural domain they snatch away?

In hilly regions, there is also the menace of forest fires. Does not the vision of animals, large and small, their eyes staring with blind fear, running, galloping and stumbling through the forest before relentless, pursuing, tongues of fire, stir some pity in the human heart? It is the duty of every forest guard to keep a constant look-out for fire—the destroyer of thousands of defenceless creatures.

Animals all depend upon rivers, lakes or jheels for their water. If, in time of drought, these sources of water were to dry up, the toll of life would be immense. The Forest Department should see to it that in such times there is water provided.

In the more backward areas of India, certain tribes do a roaring trade in the spoils of their hunting—skins, horns, claws and even flesh of wild animals. They kill indiscriminately and it does not occur to them that gradually the creatures they hunt will no longer exist.

Such commercialisation of hunting should be made illegal. In one instance, a tribesman readily agreed to procure 200 partridges for a certain city-dweller, at two days notice! If this sort of thing happened often, there would soon be no more partridges in the district.

Another great measure the Government can take to preserve our wild life is the making of large game sanctuaries, like the Kruger National Park in South Africa. True, there are already quite a few sanctuaries in India, but there should be many more. In a sanctuary, every species of animal should be allowed to roam freely in its natural setting, unmolested. Visitors and tourists are attracted to sanctuaries, so increasing Government revenues which

should be utilised for the benefit of wild life. Species of animals that would flourish in sanctuaries are the blackbuck, nilgai, sambhar, elephant and tiger.

But some animals do not seem to flourish anywhere, and are gradually becoming extinct—the Indian lion for one. The Gir lions seem to be unable to fend for themselves, and should be given more protection. It is said that animals do not breed in captivity but there is no other choice. Zoos should be developed and be provided with better facilities, and have as much space provided as possible. They should not be so much show-places as institutions to preserve the wild life of our land.

It is only with the co-operation of the entire Indian public and with the untiring and careful vigilance of forest officials that India's fauna, her greatest wealth and proudest heritage, can be preserved to face future generations in all its wild beauty.

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64. Shri M. L. Khanna, Conservator of Forests (Retd.), 28, Rajpur Road, Dehra Dun.
65. Mrs. E. Augier, Club Cottage, Ranchi, Bihar.
66. Ch. Dharampal Singh, P.F.S., I, Conservator of Forests, Sutlej Circle, Nabha.
67. Shri T. K. Menon, District Manager, A.I.I., 9A, Connaught Place, New Delhi.
68. Shri Shamsher Singh, 41, The Mall, Amritsar, Punjab.
69. Miss Ellen Drake, American Embassy, T.C.M., New Delhi.
70. S. Gurkirat Singh Mann, Mann Lodge, 17, Inder Road, Dehra Dun.
71. Shri Y. N. Gupta, 139, Sundar Nagar, New Delhi.
72. Shri R. M. Batra, The Imperial Tobacco Co. of India Ltd., Madras.
73. Shri Darshan Lal, Cycle Emp., Dehra Dun.

Educational Members :

1. Shri M. C. Wood, Physical Teacher, St. George's College, Mussoorie, U.P.
2. Shri M. A. Rashid, Instructor, F.R.I., Dehra Dun.
3. Shri B. B. Wadhvani, Instructor, F.R.I., Dehra Dun.
4. Shri Ram Prakash, Instructor, Northern Forest Rangers College, Dehra Dun.

NOTICES

Corbett Prize.

The Managing Committee of the Wild Life Preservation Society of Northern India has decided to invest the sum of Rs. 500/- donated by Miss Maggie Corbett in memory of her brother late Jim Corbett in fixed deposit account. The income will be used to give a prize for the best effort in wild life protection by a school boy or girl in Northern India. Suggestions are invited from the members of the Society as to the exact nature of the wild life effort which will earn this prize.

Identity Cards.

Identity cards for members of the Wild Life Preservation Society of Northern India are available with the Hony. Secretary of the Society.

Members interested in having them may kindly send a photograph of themselves, size $2\frac{1}{2}'' \times 2\frac{1}{2}''$ approximately, for affixing in the card which will then be sent to the members concerned duly with the Secretary's official stamp.

Greeting Cards & Letterheads.

Personal Greeting Cards for all seasons and letterheads have been prepared and are available to Members of the Society, who may apply to the Secretary.

Conversion of Ordinary to Life Membership.

It was decided by the Executive Committee that subject to the approval of the Central Body, members will be allowed to convert their membership to life at any time upto 5 years paying the balance of the difference between Rs. 150/- (Life membership) and the accumulating payment including Entrance fee, made upto that time.

प्रकृति का संतुलन

आजकल हमारे देश में जंगली जानवरों की रक्षा करने की बहुत चर्चा है। वे लोग, जिनको इनके बारे में कम जानकारी है, यह सवाल पूछ सकते हैं कि इनकी रक्षा करने की क्या जरूरत है? हम इनको क्यों बचायें? हमें भला शेर, चीते, गैंडे, बारहसिंघे या जंगली चिड़ियाँ क्या फायदा पहुँचा सकती हैं? क्या यह सच नहीं है कि यह जानवर और चिड़ियाँ हमारे कीमती फसलों को नुकसान पहुँचाती हैं? क्या ये जंगली जानवर हमारे पालतू पशुओं को नहीं मार डालते हैं?

ये बहुत ही स्वाभाविक और महत्वपूर्ण प्रश्न हैं। इनका उत्तर बहुत ही गूढ़ है। एक साधारण मनुष्य का एक जीव का दूसरे जीव से क्या सम्बन्ध है, ठीक से नहीं मालूम हो सकता है। एक जिज्ञासु मनुष्य ही यह समझ और समझा सकता है कि किस प्रकार एक जीव दूसरे जीव के ऊपर निर्भर रहते हैं और किस प्रकार ये जीव हमारी सृष्टि को पूर्ण बनाते हैं। हमारे पूर्वज इस बात को भलीभाँति जानते थे। किन्तु हम साधारण तौर पर इन जंगली जानवरों को एक पहलू से देखते हैं और दूसरे पहलू को भूल जाते हैं। इसलिए हम सोचते हैं कि ये हमारे फसलों को कितना नुकसान पहुँचाते हैं और हमारे मवेशियों को खा डालते हैं। पर हम कभी नहीं सोचते कि आदमी, जानवर और पौधे एक दूसरे के ऊपर कितना निर्भर रहते हैं। दुनियाँ में कोई चीज बेकार नहीं पैदा हुई है। हर एक चीज का अपनी-अपनी जगह पर अपना-अपना महत्व है। इस लिए हमारी दुनियाँ में इन जानवरों का भी स्थान है। हमारे वन, पहाड़ और नदियाँ इनके बिना सूनी पड़ जायेंगी। ये प्रकृति के शृंगार हैं। हमारे एक रस जीवन में नया जीवन फूँकते हैं। इनको बचाने से हमारा ही लाभ होगा। इनकी हमारे सांस्कृतिक, धार्मिक, आर्थिक, कलात्मक और मनोरंजन के क्षेत्र में बहुत बड़ी देन है। इसलिए यह हमारा पावन धर्म है कि इनको संतुलित संख्या में बनाए रखें।

इसलिए यह आपका कर्तव्य है कि किसी जानवर को मारने से पहले आप सोचलें कि आप कहां तक ठीक हैं। अन्धाधुन्ध जंगली सूअरों को मत मारिए क्योंकि वे शेर और चीते के भोजन हैं जो कि इनकी कमी हो जाने पर आपके पालतू पशुओं को मार कर खायगा। शिकारी-लाइट (Spot Light) से मृगों को न मारें क्योंकि वे बाघ के भोजन हैं जो कि इनकी कमी हो जाने पर नर-भक्षी हो जाते हैं।

चीतों को मत मारिये क्योंकि इनके मर जाने पर जंगली सूअरों की संख्या बहुत बढ़ जायगी, वे आपकी फसल को बहुत नुकसान पहुँचाएँगे। बाघों को जल के कुण्डों पर मत मारिए नहीं तो मृगों की संख्या बहुत बढ़ जायगी और वे आपके खेतों को चरेंगे। इसलिए आप बाघ और चीतों की रक्षा कीजिए क्योंकि ये मृगों और सूअरों को खा कर आपकी फसल की रक्षा करते हैं।

गोदड़ और लोमड़ी की संख्या अधिक बढ़ने न दें क्योंकि ये आपके जंगली और पालतू मुर्गी को खाते हैं।

चिड़ियाँ आपका बहुत फायदा करती हैं। बगुलों को मत मारिए क्योंकि ये आपके मवेशियों को किलनी (Ticks) से बचाते हैं। जाधिल, गरुड़, साँरग, नारी घोवे, मेंढक और पानी के भौरों (Water Beetles) आदि को खाकर मछलियों की रक्षा करते हैं। जंगली मुर्गी, तीतर और बटेर को आप अधिक न मारें व जाल में

फसाएँ क्योंकि ये छोटे मांसाहारी जानवरों के भोजन हैं जोकि इनकी कमी होने पर आपके पालतू मुर्गी को खायेंगे। तीतर, मैना, कस्तूरी, नीलकंठ, बटेर, कीड़े और टिड्डियों को खाकर आपकी फसल को नष्ट होने से बचाती हैं। बाज की रक्षा करिये जो छोटी चिड़ियों को खाकर आपकी फसल की रक्षा करता है। तोते, कबूतर, कौवे और बन्दरों को गोली से मारें और जाल में फसाएँ क्योंकि ये आप के अनाज और फल के बगीचों को नुकसान पहुँचाते हैं।

कुछ जाति के सर्प भी आपका फायदा करते हैं। अजगर और धामिन सांप चूहों को खाकर आपके गांव और खेतों की रक्षा करते हैं। ये सांप बिना जहर के होते हैं। इसलिए इनकी रक्षा करने से आपके खेतों को चूहों से डर नहीं रहेगा।

पानी के जानवर भी कम लाभदायक नहीं हैं। आप घड़ियाल के बच्चों को मत मारिए क्योंकि ये घोंघे, मेढ़क और पानी के भौंरों (Water Beetles) को खाकर आपकी मछलियों की रक्षा करते हैं। गोह, कीड़े मकोड़े और जहरीले सर्पों को खाती है। मछलियों की बहुत बड़ी खपत है आप नदियों में बम वर्षा न करें, नहीं तो मछलियों की संख्या बहुत कम हो जायगी। मछलियों को बड़े छेद वाले जाल से ही पकड़ें क्योंकि छोटी मछलियां इससे निकल जायेंगी और मछलियों की संख्या को कायम रखेंगी।

इस प्रकार हम देखते हैं कि ये जानवर कितना लाभ पहुँचाते हैं। इनकी रक्षा करने का प्रश्न बहुत ही गम्भीर हो गया है। बहुत सी जातियों के जानवरों को हमने पूर्णतया नष्ट कर दिया है बाकी जो बचे हैं उनकी रक्षा करने का प्रश्न हमारी सभ्यता को चुनौती है। मनुष्य जाति सभी जानवरों से बुद्धिमान और श्रेष्ठ है। उदार प्रकृति ने हमारे लाभ के लिए ये सभी जानवर बनाये हैं। यह हमारा परम धर्म है कि हम इनकी रक्षा करें।

करणदेवसिंह, डी०एफ०ओ०।

दुमदराज हफ़ई

लेखक—श्री रामेश बेदी, गुरुकुल कांगड़ी, हरिद्वार।

सवा दो फुट लम्बे, पतले शरीर वाले, बहुत सरल, शर्मिले सांप की यह संक्षिप्त कहानी है। इसकी खाल भूरी होती है जिसके सारे शरीर पर सफेद धारियाँ अनियमित रूप से छाई होती हैं। गरदन पतली होती है। उभरी हुई बड़ी आंखों की सुनहरी पुतली इसे और अधिक सौन्दर्य प्रदान करती है। पुतली के बीच में एक दिगन्तसम रेखा होती है। सब विशेषज्ञ इस सांप को बोगिगा ट्राइगोनेटा (Boiga trigonata, Schneider) कहते हैं। अंग्रेजी में इसके लिए इण्डियन गामा या कैट स्नैक नाम है। दिल्ली के संपेरे इसे दुमदराज हफ़ई कहते हैं। इस की पूंछ लम्बी होती है। जब यह शत्रु पर चोट करने की स्थिति में अपने शरीर को मोड़ता है तो इसकी तुलना उस समय हफ़ई (एकिस करिनाटा) से की जा सकती है। उसी से इसे यह नाम “दुमदराज हफ़ई” दिया गया है। इसका शाब्दिक अर्थ है “लम्बी पूंछ वाला हफ़ई”।

प्रतीत होता है कि सांपों का अध्ययन करने वाले प्रकृतिविदों ने इस सांप की प्रकृति के सम्बन्ध में विशेष अध्ययन नहीं किया है। बौम्बे नेचुरल हिस्ट्री सोसाइटी के जर्नल की अठारवीं जिल्द के ५४६ पृष्ठ पर श्री बौल बताते हैं—मुझे पर्याप्त निश्चय है कि यह जाति अण्डजरायुज (Oviparous) है। और यह विश्वास करने के लिये सम्यक आधार है कि निक्षेप के समय अण्डों में मृग विकास की बहुत आरम्भिक अवस्था में होते हैं, परन्तु इस बात के लिये मैं अब तक निश्चयात्मक रूप से नहीं कह सकता। इसके विपरीत श्री स्मिथ ने “फौना” के पृष्ठ ३५० पर श्री बौल (१९०८ और १९२१) को उद्धृत करते हुए लिखा है—“तीन से ग्यारह अण्डे तक दिये जाते हैं।” मेरे पास १९५५ में सवा दो महीने जो मादा दुमदराज हफई (इण्डियन गामा) रही उसने सात अण्डे दिये थे। यद्यपि मैं उसे अन्य सांपों के समान पालने में सफल न हो सका था परन्तु फिर भी इस कम ज्ञात सांप की प्रकृति के बारे में मुझे कुछ ज्ञान मिल सका था। मैं उसकी डायरी लिख लिया करता था। उसी डायरी के पन्ने सांपों का अध्ययन करने वालों की सेवा में प्रस्तुत कर रहा हूँ।

१०-७-१९५५: प्रो० रामनाथ के घर में नाली में से घुस कर ईंट के साथ बैठा था। नाली बन्द करने के इरादे से छिद्र के सामने पूरी ईंट खड़ी कर दी गई थी। भाड़ लगाते हुए ईंट हटाने पर सांप पर दृष्टि पड़ी। चौड़े मुख की एक पौण्ड वाली ढक्कनदार शीशी में उसे डाल लिया गया। हवा के लिये ढक्कन में छेद थे।

१३-७-५५: शाम को फोटो लिये। एक बार भी काटने का प्रयत्न नहीं किया। राजेश (आयु छः वर्ष) और नरेश (आयु आठ वर्ष) भी उसे हाथ से पकड़ लेते थे। सिर पर तीर सदृश निशान हैं। सांप बहुत भोला है। गतियां बहुत सुन्दर हैं। आकाश में इसके तीन-चार घुमाव तक लटकते रहते हैं। मांस पेशियों पर बहुत अच्छा नियन्त्रण है।

१५-७-५५: सुबह सात बजे नरेश ने बताया कि सांपिन ने अण्डे दे दिये हैं। अब तक ये भरे हुए बदन वाली हूण्ट-पुण्ट सांपिन थी। परन्तु प्रसव के बाद यह एकदम पतली पड़ गई। केंचुली भी उतर गई थी। रंग निखर गया था।

१६-७-५५: अण्डों के पास ही कुण्डली में बैठी रहती है। रात को सचेत होती है और थूथनी को ऊपर बंधे कपड़े में अटका कर सारे बदन से जोर लगाती है। कभी कभी अण्डों के ऊपर बैठी हुई भी मिल जाती है। अण्डों के ऊपर बैठना सेने के इरादे से नहीं है। गोबर के गुबरीले तथा दूसरे पंखदार कीड़े १६-७-५५ की रात को डाले गये। खाये नहीं। पहले जब टीन का ढक्कन था तो उसे उठाने की कोशिश में सांपिन ने अपनी थूथनी ज़रूमी कर ली थी। अनेक बार मुंह फाड़ते हुए देखा गया है।

१०-८-५५: आज तक छोटे बड़े अनेक मेंढक दिये गये, सांप ने खाये नहीं। उस पर कूदते फांदते रहे। बहुत सीधा सांप है। न काटता है, न डराता है। बच्चों को प्यारा लगता है। राजेश, नरेश बड़े प्यार से हाथ में उठाते रहते हैं। उपवास के कारण निर्बल हो रहा है। बाहर निकलने के प्रयत्न भी अब इसने बन्द कर दिये हैं। चुपचाप बैठा रहता है। कभी-कभी मर्तबान में चलता फिरता है, जीभें भी कम ही निकालता है।

आज एक धामन का बच्चा घास में विज्ञान कक्ष के सामने प्रातः ९ बजे पकड़ा। बहुत चुस्त था, डराता था, काटने के लिए लपकता था। उसी मर्तबान में डाल दिया। शीशे में, कपड़े में थूथनी अटका कर निकलने की कोशिश करता है। अण्डे सब उथल-पुथल हो गये। कई बार पानी में गिर पड़े।

११-८-५५: साँपिन ने कैंचुली उतारी। एक सह मैं पड़ी थी। शाम को साँपिन मरी हुई नजर आई। हाथ में उठाने पर चलने लगी।

धामन ने साँपिन को कुछ नहीं कहा। दोनों अलग-अलग कुण्डलियों में पड़े रहते हैं। शाम को बहुत छोटे-छोटे दस-बारह मेंढक डाले। दोनों साँपों में से किसी ने नहीं खाये।

१२-८-५५: सुबह देखा तो सब मेंढक खाये जा चुके थे। यह कहना कठिन है कि साँपिन ने भी इस भोजन में से कुछ ग्रास लिये हैं कि नहीं?

१३-८-५५: आज सुबह साँपिन को बलात् खिलाने के लिये बाहर निकाला। प्रकाश में पेट देखा तो काला सा एक निशान अन्दर दीखा। ख्याल है कि यह कल का खाया मेंढक शिशु है। बलात् खिलाने का इरादा छोड़ दिया। नाप लिया। दो फीट ३ इंच है। दोपहर १२ बजे। बहुत छोटे-छोटे १० मेंढक शिशु डाले। धामन एक-एक करके सबको खा गया। साँपिन ने नहीं खाया।

१४-८-५५: साँपिन को बाहर निकाला। स्केच बनाने के लिये। मल विसर्जन किया। इससे अनुमान है कि इसने मेंढक खाया होगा।

१७-८-५५: गिरगिट का एक-दो दिन का बच्चा डाला। कुछ देर बाद लोप हो गया। मालूम नहीं दोनों में से किसने खाया है।

२०-८-५५: धामन ने कैंचुली उतारी। उसने गिरगिट का बच्चा खाया। छोटे अनेक मेंढक भी।

२५-८-५५: धामन ने मेंढक के छोटे बच्चे कोई बीस खा लिये। बीस मिनट में ही।

२८-८-५५: २६-२८ अगस्त तक देहरादून रहकर आज लौटा हूँ। साँपिन हिलती तक नहीं थी। मेज पर जरा से खटके के प्रति वह बहुत सेन्सिटिव थी। परन्तु आज खटके ने कोई प्रतिक्रिया न दिखाई तो मरा हुआ समझ लिया। बाहर निकाला। फर्श पर पानी डाल कर उस पर छोड़ा। ३६ घूंट तो एक साँस में पी गई। जरा ठहर कर दूसरे साँस में ७ घूंट पानी पी गई। अब यह प्राणवान थी। पुनः मर्तबान में डाल दिया। यह बात शाम के ७ बजे की थी ७-४५ पर एक मेंढक डाला। धामन भट भपटा। मेंढक भट कूद कर साँपिन (दुमदराज हफई) के पास चला गया। धामन फिर भपटा। मेंढक तो बच गया पर साँपिन का मुख धामन के दांतों में आ गया। साँपिन ने छूटने की भरसक कोशिश की। उसका सारा शरीर मर्तबान की दीवारों के सहारे ऊपर तक खड़ा होकर तड़पता रहा था और धामन वीरता से उसे उदरस्थ करने पर उतार था। पूरे दस मिनट तक वह दुमदराज हफई को निगलने की चेष्टा करता रहा। कुल ढाई इंच तक साँपिन उसके अन्दर जा सकी। साँपिन निश्चेष्ट हो चुकी थी, बिल्कुल मृत। दस मिनट बाद धामन को अपनी भूल पता लगी। दो फुट ३ इंच लम्बा यह मेंढक वह अपने पेट में नहीं ले जा सकेगा क्योंकि धामन की लम्बाई डेढ़ फीट है। बच्चों को बहुत दुःख हुआ कि उनकी परिचित, सरल, सुन्दर साँपिन मर गई। उसने साँपिन को उगल दिया। वह मृत सी पड़ी थी।

२९-८-५५: प्रातः ६ बजे देखा साँपिन जीवित थी। हम सब खुश थे। रात ८ बजे दस-बारह मेंढक डाले। धामन सब खा गया। एक बड़े बच्चे को उसने भूल से मुख के स्थान पर पीछे से पकड़ लिया। इसे निगलने

में उसे असाधारण श्रम करना पड़ा टांगें जबड़ों के बाहर निकली निकली रहती थीं और अटकती थीं। पूरा निगलने में १५ मिनट लगे। लार बहुत निकलती थी, उस पर बुलबुले पैदा हो गये थे।

३०-८-५५: प्रातः ७ बजे। साँपिन को बाहर छोड़ा। फर्श पर उसने एक बार में १०० घूंट पिये। नरेश और सुरेश ने गिना। कुछ ठहर कर ४६ घूंट पिये। अब तक कभी भी भोजन खाती हुई नहीं देखी गई। पाँच अण्डे तो ठीक हैं। दो अण्डे शुरू में ही भुर्रीदार हो गये थे।। ये सड़ चुके हैं। इन पर सफेद फंगस का आक्रमण हो चुका है।

१-९-५५: दुमदराज हफई मर गई। संग्रहालय भेज दी। मृत्यु का कारण लम्बा उपवास तथा तज्जन्य निर्बलता थी।

२-९-५५: एक अण्डे में से कोई दो इंच बाहर निकला हुआ बच्चा नरेश ने देखा। शाम ६-२५ पर सामाजिक गोष्ठी से उठकर मैं देखने गया। पानी के पात्र में अण्डा पड़ा था। बच्चे ने अपना मुख दवात के किनारे पानी के ऊपर टेका हुआ था। उठा कर मैंने मर्तबान में सूखी जगह रख दिया। अण्डे की लेसदार सफेदी भी काफी मात्रा में बह रही थी। बच्चा कभी ही जीभ निकालता था। हिलता प्रायः नहीं था। अत्यन्त निर्बल तथा हिलने डुलने में अशक्त था। सिर और शरीर के निशान बिल्कुल अपनी माँ जैसे हैं। ७-१५ पर बच्चा निर्जीव सा दीखता था, शक है कि मर जायेगा। नरेश ने पकड़ कर अण्डे में से बाहर खींच लिया। लेसदार सफेदी में लथपथ था। निर्जीव सा रेत पर पड़ा है। लम्बा बहुत काफी है। ७-३० पर चल रहा है। अण्डे से बाहर निकालने में नरेश सहायता न करता तो शायद अशक्त होने से उसी हालत में मर जाता—अण्डे से बाहर दो इंच, शेष भीतर ही। ७-४५ पर मर्तबान की दीवारों के साथ ऊपर चढ़ता है। माँ की तरह कभी कुण्डली मार लेता है। फर्श पर चुस्ती से भागता है। पूँछ को उंगली पर लपेटता है। शीशे की दीवार में थूथनी से जोर लगा कर बाहर निकलना चाहता है। माँ की तरह कभी मुँह फाड़ता है। माँ की पुतली सुनहरी थी, इसकी काली है। सिर से पूँछ के अन्त तक वह पौने आठ इंच लम्बा था।

धामन को दूसरी शीशी में रक्खा था। नरेश ने मुख नहीं बन्द किया। कहीं भाग गया। पता नहीं चला।

१२-९-५५: कल प्रातः शिशु ने केंचुली उतारनी शुरू की थी। शाम तक पूरी उतर गई। शेष अण्डे २-९-५५ से ही पिचके हुए हैं। उस दिन मर्तबान को धोया था। नई रेतीली मिट्टी डाली थी। नई मिट्टी में नमी कम होने से शायद ये पिचक गये थे। ५-९-५५ को पानी अधिक डालकर नमी बढ़ा दी थी। फिर भी अण्डों के बाह्य रूप पर कोई अन्तर नहीं पड़ा। मेरा ख्याल है कि ये सब खराब हो गये हैं। इनमें से बच्चे नहीं निकलेंगे।

जिस अण्डे में से बच्चा निकला था उस खोल को ७-९-५५ को नरेश ने चीरा। मांस का एक पिण्ड निकला। क्या यह कोई नया साँप बन रहा था? दुमदराज हफई का शिशु कई बार पानी में आधा बैठा मिलता है। प्रायः पानी के आस-पास रहता है। पानी पीता भी होगा।

१६-९-५५: प्रातः मर्तबान देखा तो शिशु नहीं था। मुख पर कपड़ा नहीं था। कहीं भाग गया।

APPLICATION FORM

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FORM IV

(See Rule 8)

- | | | | |
|--|------|------|---|
| 1. Place of publication | | | Dehra Dun. |
| 2. Periodicity of its publication | | | Bi-Annual. |
| 3. Printer's Name | .... | .... | Shri Tara Chand Sharma. |
| Nationality | .... | .... | Indian. |
| Address | | | Doon Printing House,
27, Rajpur Road, Dehra Dun. |
| 4. Publisher's Name | .... | .... | Mr. R. L. Holdsworth. |
| Nationality | .... | .... | Engllsh. |
| Address | .... | .... | 1, New Survey Road, Dehra Dun. |
| 5. Editor's Name | .... | .... | Mr. R. L. Holdsworth. |
| Nationality | .... | .... | English. |
| Address | .... | .... | 1, New Survey Road, Dehra Dun. |
| 6. Name and address of individuals who own the newspaper and partners and shareholders holding more than one percent of the total capital. |  | .... | Wild Life Preservation Society of Northern India. |

I, Mr. R. L. Holdsworth, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Dated 31st March, 1959.

Sd. R. L. Holdsworth,
Editor & Publishers.

FORM IV

(See Rule 8)

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Address	1, New Survey Road, Dehra Dun
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Nationality	English
Address	1, New Survey Road, Dehra Dun
6. Name and address of individuals who own the newspaper and partners and shareholders holding more than one percent of the total capital.	Wild Life Preservation Society of Northern India

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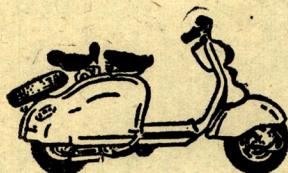
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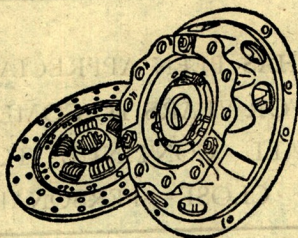
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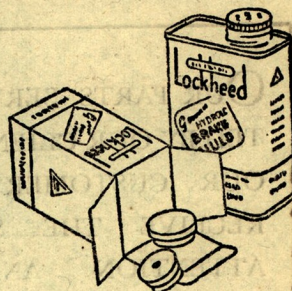
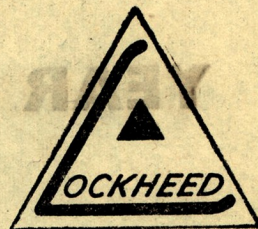


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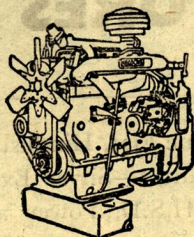
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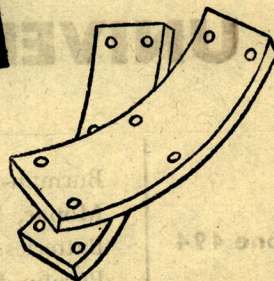
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